

September 23, 2019

VIA E-MAIL  
VIA U.S. MAIL

Katherine Collier, Executive Secretary  
Mississippi Public Service Commission  
501 North West Street, Suite 201A  
Jackson, MS 39201

**Re: PETITION OF MISSISSIPPI POWER COMPANY FOR A CERTIFICATE OF PUBLIC  
CONVENIENCE AND NECESSITY FOR ENVIRONMENTAL COMPLIANCE ACTIVITIES  
AUTHORIZING THE CLOSURE OF THE ASH POND, CONSTRUCTION OF A LOW  
VOLUME WASTEWATER TREATMENT FACILITIES, AND CONVERSION OF  
BOTTOM ASH COLLECTION FACILITIES FOR THE PLANT VICTOR J. DANIEL  
ELECTRIC GENERATING FACILITY IN JACKSON COUNTY, MISSISSIPPI  
DOCKET 2019-UA-116**

Dear Katherine:

On behalf of Mississippi Power Company and pursuant to the Commission's Order in the above reference Docket, I submit the original and twelve (12) copies of its Proposed Order for filing with the Commission. I also enclose an extra copy of the first page of the filing which I would appreciate your stamping with the filing date and returning to me in the enclosed self-addressed, stamped envelope.

Very truly yours,

MISSISSIPPI POWER COMPANY



SHAWN SHURDEN

SSS:alm

CC:  
All Parties of Record  
Frank Farmer, Esq.  
Mr. Virden Jones  
Tad Campbell, Esq.  
Ms. Brandi Myrick

BEFORE THE MISSISSIPPI PUBLIC SERVICE COMMISSION

MISSISSIPPI POWER COMPANY  
EC-120-00097-00

DOCKET NO. 2019-UA-116

**IN RE:      PETITION OF MISSISSIPPI POWER COMPANY FOR A  
CERTIFICATE OF PUBLIC CONVENIENCE AND  
NECESSITY FOR ENVIRONMENTAL COMPLIANCE  
ACTIVITIES AUTHORIZING THE CLOSURE OF THE  
ASH POND, CONSTRUCTION OF LOW VOLUME  
WASTEWATER TREATMENT FACILITIES, AND  
CONVERSION OF BOTTOM ASH COLLECTION  
FACILITIES FOR THE PLANT VICTOR J. DANIEL  
ELECTRIC GENERATING FACILITY IN JACKSON  
COUNTY, MISSISSIPPI**

**ORDER APPROVING PETITION FOR FACILITY CERTIFICATE**

THIS CAUSE came on for consideration by the Mississippi Public Service Commission (“Commission”) on the request of Mississippi Power Company (the “Company” or “MPCo”) for a certificate that the present and future public convenience and necessity requires or will require the closure of the ash pond, construction of a low-volume wastewater facility, and conversion of bottom ash collection facilities (collectively, the “CCR Projects”) to ensure continued compliance with federal environmental requirements at the Plant Victor J. Daniel Electric Generating Facility in Jackson County, Mississippi (“Plant Daniel”), pursuant to Sections 77-3-11 and 77-3-13 of the *Mississippi Code of 1972, as amended*, and Rule 7 of this Commission’s Public Utilities Rules of Practice and Procedure (“Rules”). This Commission, being fully apprised in the premises, having considered the

documents and record before it, and upon recommendation of the Mississippi Public Utilities Staff (“Staff”), finds that the certificate of public convenience and necessity requested by the Company should be granted, and further finds as follows:

### INTRODUCTION

1. The coal units at Plant Daniel (“Units 1 and 2”) were placed in service in 1977 and 1981, respectively, and are the newest coal units in MPCo’s fleet, which are capable of generating approximately 1,020 MW (net summer peak) of electricity.<sup>1</sup> For MPCo, Units 1 and 2 represent the only significant source of fuel diversity remaining in its fleet following the conversion of all their other coal units to natural gas.

2. To support its units, Plant Daniel employs approximately 200 full-time employees on site in Escatawpa, a small, rural community in Jackson County, Mississippi. A significant majority of these jobs directly support the two (2) coal units, and the Plant, in total, contributes over \$18 million annually to the ad valorem tax collections of Jackson County. Units 1 and 2 each have projected remaining useful lives of over 20 years.

3. Over the course of its service, Plant Daniel, and more particularly Units 1 and 2, has been impacted by the policies of the federal Environmental Protection Agency. For example, the Commission approved in 2012 the construction of a flue gas desulfurization system (“Scrubber”) to further the

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<sup>1</sup> Plant Daniel is also home to two (2) natural gas-fired combined cycle units (Units 3 and 4) that combined are capable of generating approximately 1,054 MW (net summer peak) of electricity. This Commission also acknowledges that Gulf Power Company (NextEra) owns a 50% undivided interest in Units 1 and 2.

continued operation of Units 1 and 2, which was necessitated by federal regulation and represented over \$600 million in construction costs. Advancing federal regulations and accommodation of their constrained compliance periods, once again, requires timely action by the Commission.

4. Accordingly, the Commission finds that the Company's petition should be granted for the following reasons and considerations, which will be set forth further in this Order: 1) the proposed projects are required to timely comply with applicable environmental laws respecting ash pond closures and coal combustion residuals (CCR); 2) Units 1 and 2 at Plant Daniel have significant remaining useful life and are not scheduled to retire until 2042 and 2046, respectively;<sup>2</sup> 3) this Commission has previously determined in 2012 when it approved the installation of Scrubber equipment for Units 1 and 2 that preserving coal-fired generation at Plant Daniel provides important fuel diversity and is in the overall best interest of customers;<sup>3</sup> and 4) the Commission, the Public Utilities Staff and the Company have been diligently and deliberately engaging, for over a year, in economic analysis regarding MPCo's fleet of generating assets in the Commission's Reserve Margin Docket,<sup>4</sup> where it is most appropriate for this Commission's policies regarding MPCo's existing generating facilities, including Plant Daniel Units 1 and 2, to be addressed.

#### PROCEDURAL BACKGROUND

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<sup>2</sup> *In re: Mississippi Power Company*, MPSC Docket No. 2014-UN-0276.

<sup>3</sup> *In re: Mississippi Power Company*, MPSC Docket No. 2010-UA-0279.

<sup>4</sup> MPSC Docket No. 2018-AD-0145.

5. The Company filed its Petition for Facility Certificate in this docket on July 9, 2019, and noted both in its filing and in accompanying pre-filed testimony the need for the Commission to move quickly to approve the Petition so that MPCo could comply with federal regulatory deadlines. Specifically, MPCo identified November 1, 2019, as the time by which Commission action would be necessary.

6. Notice of the matter was given to all persons interested therein in accordance with Mississippi law by mailing such notice to each public utility which may be affected, as well as by publication on July 20, 2019, in the Clarion Ledger, a newspaper of general circulation in Jackson, Mississippi, by publication on July 19, 2019, in the Mississippi Press, a newspaper of general circulation in Jackson County, Mississippi, and by publication on July 18, 2019, in the Sun-Herald, a newspaper of general circulation in Harrison County, Mississippi.

7. Cooperative Energy and the Sierra Club requested and were granted status as intervenors in this docket.

8. On September 13, 2019, the Commission entered its Scheduling Order, specifically noting the time-sensitive nature of the proceedings and finding that the procedure outlined for submissions would promote efficient administration of the proceedings and would be in the best interest of the public and the interested parties. The Scheduling Order also indicated that at the time of issuance no party had submitted pre-filed testimony and only the Staff has completed its data request exchange with the Company. Moreover, at the time the Commission issued the

Scheduling Order, no party had contested or otherwise objected to any matter related to the Petition.

9. Indeed, the Staff has conducted a thorough investigation of MPCo's application and submitted 29 data requests to MPCo to which the Company timely and thoroughly responded.

10. The Commission takes notice that while Sierra Club timely intervened, it waited until September 12, 2019, to issue its 32 data requests to MPCo, over two (2) months after the Company filed its petition in this docket and on the eve of this Commission's Scheduling Order. Sierra Club's lack of prompt engagement in this proceeding should not delay the Commission's timely resolution of this matter, particularly in light of the Company's need to begin ash pond closure activities in November in order to cease receiving CCR and non-CCR waste streams by October 31, 2020, as required by the EPA.

11. The Commission hereby incorporates MPCo's responses to all data requests by reference into the record in this proceeding and attaches to this Order the non-confidential versions of same.

12. This Commission has jurisdiction over the parties and subject matter pursuant to Sections 77-3-11 and 77-3-13 of the Mississippi Code of 1972, as amended. Given the considerations above, the Commission further finds that the Scheduling Order provides sufficient process, and the Commission has had opportunity to hear the positions of the parties through the submissions received.

#### **LAW AND EVIDENCE**

13. The federal environmental regulations governing CCR at Plant Daniel are similar to the regulations that required the closure of the ash pond facilities at the Company's Plant Jack Watson Electric Generating Plant authorized by this Commission in Docket No. 2016-UA-020. As stated *supra*, the EPA's CCR rules regulate CCR and non-CCR waste streams and require that MPCo cease placing CCR and non-CCR waste streams into the Plant Daniel ash pond by October 31, 2020, followed by closure of the ash pond, which must occur within five (5) years following the commencement of closure activities.

14. To comply with the EPA's regulations, MPCo must complete each of the following components of the CCR Projects and must do so sequentially: 1) MPCo must complete a conversion of the bottom ash collection system that will not require use of the ash pond for the discharge of any CCR waste stream; 2) following the bottom ash conversion, the ash pond itself must be closed by first ceasing receipt of any CCR or non-CCR and then by removing all CCR in accordance with 40 C.F.R. § 257.102(c); and 3) following the ash pond closure, a new low-volume wastewater treatment system must be constructed on the site of the former ash pond. No party has presented evidence in this proceeding that is contrary to both the specific requirements and timing of compliance presented by MPCo.

15. Time is of the essence. To comply with EPA's timeline, MPCo must begin construction of the CCR Projects no later than November 1, 2019. The total cost for all of the work described herein is approximately \$125 million. As an

undivided owner of 50% of Plant Daniel Units 1 and 2, MPC's portion of the project costs would be approximately \$62.5 million.<sup>5</sup>

16. As explained in the testimony of Mr. Mark Loughman, MPCo's Director of Environmental Affairs, Plant Daniel's existing Ash Pond must be closed in order to comply with the CCR Rule under Subtitle D of the Resource Conservation and Recovery Act. 40 CFR § 257.60(a) and § 257.101(b)(1). Its closure is governed by 40 CFR § 257.102(c), which requires the removal of all CCR from the ash pond and closure of the ash pond within five (5) years of commencing closure activities. More importantly, MPCo must cease placing CCR *and* non-CCR waste streams into the ash pond no later than October 31, 2020. MPCo currently expects to complete ash pond closure activities at Plant Daniel by the first quarter of 2022. Time is of the essence of these CCR Projects.

17. As Mr. Loughman describes in his testimony, the ash pond currently serves the dual purposes of bottom ash storage and low volume wastewater (LVW) retention of both CCR and non-CCR waste streams. Because the CCR Rule requires MPCo to cease receiving both types of waste streams into the ash pond by October 31, 2020, alternate facilities are required by that deadline to accommodate such waste streams once they can no longer be placed into the ash pond.

18. To that end, the Company plans to close the ash pond as described above in compliance with the applicable laws governing such closures, and to

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<sup>5</sup> In data response MPUS 1-21 (Attachment), MPCo indicated that the estimate may be closer to \$67 million because a small portion of the CCR Project is necessary to support Plant Daniel Unit 3 and Unit 4, which are wholly owned by MPCo.



repurpose the former ash pond impoundment to serve as a LVW retention pond as described in Mr. Loughman's testimony. With respect to the bottom ash created by the coal combustion process that is currently sluiced to the ash pond, the Company plans to install a Submerged Grind Conveyor (SGC) system. A second SGC will de-water the bottom ash and transport it to a bunker for storage in compliance with applicable environmental laws and regulations.

19. While Mr. Loughman's testimony is uncontroverted in the record, additional considerations warrant attention. As noted previously, Plant Daniel, particularly its coal units, contribute substantially to the economic well-being of Jackson County. Moreover, that contribution is projected, at least, to continue for another 20 years: Based upon the last depreciation study filed by the Company and approved by this Commission in Docket No. 2014-UN-0276, Plant Daniel Units 1 and 2 have projected retirement dates of 2042 and 2046, respectively.

20. Beyond the local economic contribution, coal-fired generation is MPCo's predominant source of fuel diversity, a policy this Commission has steadfastly defended. Just this past October, the Commission submitted comments in support of the Affordable Clean Energy rule, which confirmed its earlier opposition to the Clean Power Plan. The Commission's comments noted the following regarding the preservation of coal-fired generation in Mississippi: "Because Mississippi's climate and geography limit the potential for extensive investments in renewable sources, preserving some coal-fired generation is

currently critical for maintaining fuel diversity and rate stability.”<sup>6</sup> In 2014, the Commission submitted comments in opposition to the Clean Power Plan, again noting the need for fuel diversity and highlighting the detrimental effects of eliminating coal-fired generating resources.<sup>7</sup>

21. Consistent in its approach, in Docket No. 2010-UA-0279, the Commission approved MPCo’s construction of a Scrubber for Plant Daniel Units 1 and 2, which preserved MPCo’s currently scheduled unit retirement dates. In its order in the Scrubber docket, the Commission indicated its preference for fuel diversity and for the continued operating of coal-fired generation in MPCo’s fleet where it stated: “[t]he Commission finds the strategic interest of fuel diversity very compelling and gives significant weight to this consideration.”<sup>8</sup> In that Order, the Commission further explained its rationale for maintaining some fuel diversity by continuing to support the operation of some coal-fired generation at Plant Daniel:

The Commission places superior weight on the benefits of fuel diversity and fuel security offered by the Scrubber Project and finds that these benefits to MPCo's ratepayers conclusively place the Scrubber Project ahead of a combined cycle alternative. Stated differently, the Commission finds that, given the “inconclusive” or neutral economics noted by Drs. Vatter and Van Vactor, the strategic benefits of the

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<sup>6</sup> MPSC Comments submitted in Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program; Proposed Rule, Docket No. EPA-HQ-OAR-2017-0355 (October 30, 2018).

<sup>7</sup> See pp. 18-20 of comments of MPSC in *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units; Proposed Rule*, Docket No. EPA-HQ-OAR-2013-0602 (2014).

<sup>8</sup> *In re: Petition of Mississippi Power Company*, Order, pg. 12, MPSC Docket No. 2010-UA-0279 (2012).

Scrubber Project make it the best choice to serve the public interest and thereby satisfies the public convenience and necessity.<sup>9</sup>

22. Without Plant Daniel Units 1 and 2, MPCo's owned generating capacity would be 100% dependent upon natural gas, which this Commission believes is not in the best interest of MPCo's customers at this time.<sup>10</sup>

23. As with the Scrubber matter, the Commission may once again face neutral or non-determinative economic analysis, in which Commission policy considerations and choices will come to the fore. Those deliberations and decisions, however, are best addressed in the Commission's Reserve Margin Docket, since it was established for that purpose.

24. For example, some data requests and responses indicate that if the Commission ordered early retirement of Unit 1 and Unit 2, then approximately \$45 million of CCR Project related costs could be avoided. Assuming those costs could actually be avoided and that the transmission construction schedule risk would be worth taking, MPCo's portion of those savings is relatively small compared to the overall investment at Plant Daniel and is certainly less significant than the weightier decision of whether to retire two units twenty years ahead of schedule that would largely eliminate MPCo's existing fuel diversity.

25. The Staff and its consultants have been diligently working with the Company in the Reserve Margin Docket to present a full picture to this Commission so that it may make the best decision possible on a prudent timetable. This

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<sup>9</sup> *Id.* at 15.

<sup>10</sup> MPCo has approximately 150 megawatts of renewable energy under long-term output power purchase agreements on an energy-only basis (i.e. MPCo does not own the facilities).

Commission finds that an economic re-analysis of Plant Daniel Unit 1 and Unit 2 does not serve the public interest, at this time. To the extent any additional economic analysis regarding MPCo's fleet of generating assets is performed in the Commission's Reserve Margin Docket established in Docket No. 2018-AD-0145, those results and any impacts on this Commission's policies regarding MPCo's existing generating facilities, including Plant Daniel Unit 1 and Unit 2, will be addressed in that proceeding.

### **CONCLUSION**

26. For all the foregoing reasons and for all the reasons set forth in this Order, the Commission hereby finds that the public convenience and necessity requires and will require the CCR Projects proposed in the Company's petition to preserve the continued operation of its only coal-fired generation available for service to customers in Southeast Mississippi.

27. The Company has reasonably complied with the applicable filing requirements and has provided information sufficient for the Commission's and the Staff's consideration of this matter. Therefore, for good cause shown, this Commission waives any other filing requirements as prescribed by this Commission's Rules and not provided by the Company.

WHEREFORE, PREMISES CONSIDERED, the Commission hereby grants the Company a Certificate of Public Convenience and Necessity authorizing the Company to perform the CCR Projects as described above and in the Company's Petition.

This Order shall be deemed issued on the day it is served upon the parties herein by the Executive Secretary of this Commission who shall note the service date in the file of this Docket.

Chairman Brandon Presley voted \_\_\_\_; Vice Chairman Cecil Brown voted \_\_\_\_; and Commissioner Sam Britton voted \_\_\_\_.

SO ORDERED by this Commission on this the \_\_\_\_ day of \_\_\_\_\_, 2019.

MISSISSIPPI PUBLIC SERVICE COMMISSION

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Brandon Presley, Chairman

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Cecil Brown, Vice-Chairman

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Sam Britton, Commissioner

ATTEST: A True Copy

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Katherine Collier,  
Executive Secretary

Effective this the \_\_\_\_ day of \_\_\_\_\_, 2019.



RICKY J. COX  
t: (228) 214-0411  
f: (888) 506-8674  
e: [rcox@balch.com](mailto:rcox@balch.com)

August 16, 2019

Ms. Cassandra Lowe  
Mississippi Public Utilities Staff  
501 North West Street, Suite 301B  
Jackson, MS 39201

Re: **Petition of Mississippi Power Company for a Certificate of Public Convenience and Necessity for Environmental Compliance Activities Authorizing the Closure of the Ash Pond, Construction of Low Volume Wastewater Treatment Facilities, and Conversion of Bottom Ash Collection Facilities for the Plant Victor J. Daniel Electric Generating Facility in Jackson County, Mississippi**  
**Docket No. 2019-UA-116**

Dear Cassandra:

On behalf of Mississippi Power Company in the above referenced docket, I enclose a copy of certain of the Company's Responses to the Mississippi Public Utilities Staff's First Set of Data Requests. By copy of this letter, I am providing one (1) copy to each party who has requested our responses, and four (4) copies to the Mississippi Public Utilities Staff for filing. The original of these responses is being retained in our files.

The responses to certain requests contain confidential and proprietary commercial and financial information and trade secret information under Sections 25-61-9, 25-61-11, 75-26-3, and 79-23-1, as applicable of *the Mississippi Code of 1972, as amended* ("Confidential Information"). These documents and the Confidential Information contained therein have been clearly designated as "Confidential." MPC is providing the Confidential Information under separate confidential cover, and requests the Commission and Staff file and maintain them as confidential to the fullest extent permitted by law, and as provided by Rules 4.100 and 4.101 of the Commission's Public Utilities Rules of Practice and Procedure.

Also enclosed is a copy of this letter and the first page of the Responses, which I will appreciate your file-stamping and returning to me. Please let me know if you have any questions regarding this matter.

Very truly yours,

A handwritten signature in blue ink, appearing to read "RJC", followed by a large, stylized "C" or "P" mark.

Ricky J. Cox

RJC:hr  
Enclosures

cc: Mr. Virden Jones  
Chad Reynolds, Esq.  
Jeff Stone, Esq.  
Shawn Shurden, Esq.



## BEFORE THE MISSISSIPPI PUBLIC SERVICE COMMISSION

MISSISSIPPI POWER COMPANY DOCKET

NO.

2019-UA-116

EC-120-0097-00

DATA REQUEST AFFIDAVIT

PERSONALLY appeared before the undersigned officer authorized to administer oaths, Shawn S. Shurden, who being duly sworn, deposes and says: that the data request responses filed and to-be-filed in Docket Number 2019-UA-116 identifying the undersigned "Responsible Company Representative" are accurate and complete; that pursuant to the requirements of Rule 6.122(4) of the Commission's Rules of Practice and Procedure, the Responsible Company Representative verifies the accuracy of all responses in this docket identifying the undersigned as the Responsible Company Representative; that the facts stated therein are true to the best of the undersigned's knowledge, information, and belief, and contain no material misrepresentations or omissions based upon present facts known to the undersigned; and that if asked the questions appearing therein, the undersigned's answers, under oath, would be the same.

This the 16<sup>th</sup> day of August, 2019.



RESPONSIBLE COMPANY REPRESENTATIVE

Sworn to and subscribed before me this the 16<sup>th</sup> day of August, 2019.



Notary Public

My Commission Expires:

\_\_\_\_\_



DATA REQUEST NO.:  
REQUEST DATE:

MPUS 1-1  
JULY 30, 2019

Page 1 of 1

Please provide an overview of the existing federal and state environmental laws and regulations prompting the CCR projects.

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

On April 17, 2015, the EPA published a final rule to regulate the disposal of coal combustion residuals (CCR) as solid waste under subtitle D of the Resource Conservation and Recovery Act (CCR Rule or Rule). The Rule established national minimum criteria for CCR surface impoundments. See 40 C.F.R. Part 257. The national minimum criteria include location restrictions, one of which requires that the base of CCR surface impoundments must be located no less than five (5) feet above the upper limit of the uppermost aquifer. See 80 FR 21471-72, April 17, 2015; 83 FR 36451, July 30, 2018, 40 C.F.R. § 257.60(a). The Rule requires the closure of any CCR surface impoundment that cannot meet the applicable performance criteria for location restrictions. See 80 FR 21490-91, April 17, 2015; 83 FR 36454, July 30, 2018; 40 C.F.R. § 257.101(b)(1). The Ash Pond at Plant Daniel is a CCR surface impoundment covered by the Rule.

Based on a review of available groundwater data, the Ash Pond does not meet the minimum five-foot separation between the base of the CCR unit and the upper limit of the uppermost aquifer, and therefore under current operating conditions does not meet the aquifer location restriction imposed by the Rule.

On March 15, 2018, the EPA published proposed revisions to the Rule (Phase One, Part One Amendments) in which it proposed to extend the overall cease-receipt deadline for CCR and non-CCR waste streams to October 31, 2020 for those facilities that are required to close due to the aquifer location restriction. On July 30, 2018 the EPA finalized the Phase One, Part One Amendments which extended the overall cease-receipt deadline for CCR and non-CCR waste streams to October 31, 2020. See 83 FR 36435, July 30, 2018. While the Rule provides an alternative closure option with extended closure obligations in the event a facility can demonstrate that it has no alternative capacity for the disposal of CCR waste streams, the Rule does not allow this extension for non-CCR waste streams. As a result, MPC must cease placing non-CCR waste streams into the Ash Pond by October 31, 2020.

Closure must be completed generally within five (5) years of commencing closure activities. See 80 FR 21302, April 17, 2015, § 257.102(f)(1)(ii). MPC currently expects to complete closure activities by the first quarter of 2022, well in advance of the closure deadline.

To date, the Mississippi Department of Environmental Quality has not adopted a similar rule.

The response to this request was prepared by: Mark Loughman

The response to the above information request provided to the Mississippi Public Utilities Staff is accurate and complete and contains no material misrepresentations or omissions based upon present facts known to the undersigned. The undersigned agrees to immediately inform the Staff if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the information request.

The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.

DATA REQUEST NO.:  
REQUEST DATE:

MPUS 1-2  
JULY 30, 2019

Page 1 of 2

Please explain in detail how the proposed Plant Daniel CCR projects differ from the Plant Watson CCR projects.

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

The CCR projects at Plant Daniel and Plant Watson are both required for compliance with the Environmental Protection Agency's (EPA) Coal Combustion Residual (CCR) Rule, which was finalized in early 2015.

The CCR projects at both plants involve the closure of the facility ash pond, and some change in the way the Company manages various low volume waste (LVW) streams. The primary reason for the differences is that Plant Watson no longer has operational coal units, while Plant Daniel does.

At Plant Watson, Units 4 & 5 began exclusive natural gas operation in March 2015. Because the ash pond and dry ash landfill would no longer be receiving CCR, the Company was required to close these facilities. It also became necessary to retire and close the coal pile and coal pile runoff pond and to re-route various LVW streams. The Mississippi Public Service Commission issued a Certificate of Public Convenience and Necessity for the Watson CCR projects on December 19, 2016. The ash pond closure was completed in mid-2018, leaving the CCR in place, in accordance with the criteria in the CCR Rule at 40 CFR 257.102(d). MPC completed closure of the dry ash landfill in late 2018 in accordance with the requirements of the Mississippi Non-Hazardous Waste Management regulations (11 Miss. Admin. Code Pt. 4, Ch. 1).

At Plant Daniel, Units 1 & 2 continue to operate on coal. These units have advanced air pollution controls in place to ensure compliance with other federal Clean Air Act regulations. MPC triggered closure of the ash pond in October 2018 because the pond could not satisfy one of the location criteria in the Rule. See MPUS 1-1. Specifically, the ash pond lacks the required five (5) feet of separation between the base of the CCR surface impoundment and the uppermost aquifer. Our plan is to close the Plant Daniel ash pond by removing the CCR, in accordance with the closure criteria in the CCR Rule at 40 CFR 257.102(c). This is a different closure method than the one used at Plant Watson.

Also, because MPC continues to need the dry ash landfill at Plant Daniel (unlike at Plant Watson), the North Ash Management Unit will remain in operation, as will the gypsum storage facility.

Before MPC can close the Daniel ash pond, we must install bottom ash collection systems that 1) do not require the ash pond for the discharge of any CCR, and 2) that are compliant with the

The response to this request was prepared by: Mark Loughman

The response to the above information request provided to the Mississippi Public Utilities Staff is accurate and complete and contains no material misrepresentations or omissions based upon present facts known to the undersigned. The undersigned agrees to immediately inform the Staff if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the information request.

The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.

DATA REQUEST NO.:  
REQUEST DATE:

MPUS 1-2  
JULY 30, 2019

Page 2 of 2

EPA's Effluent Limitation Guideline Rule requirements (which prohibit discharge of Bottom Ash Transport Water).

The ash ponds at both Plant Daniel and Plant Watson serve or served dual purposes – for bottom ash storage and LVW retention and treatment. At Plant Watson, as part of our CCR projects, the Company had to re-route several LVW streams to other permitted discharge outfalls. At Plant Daniel, the Company intends to repurpose the ash pond (after closure) to serve as a new LVW retention pond.

The response to this request was prepared by: Mark Loughman

The response to the above information request provided to the Mississippi Public Utilities Staff is accurate and complete and contains no material misrepresentations or omissions based upon present facts known to the undersigned. The undersigned agrees to immediately inform the Staff if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the information request.

The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.

DATA REQUEST NO.:  
REQUEST DATE:

MPUS 1-3  
JULY 30, 2019

Page 1 of 3

Please explain in detail the location restrictions outlined in the national minimum criteria under the Rule. Include in your response details regarding Plant Daniel's noncompliance with the location restrictions of the Rule and applicable performance criteria for location restrictions.

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

The CCR Rule requires the owner or operator of an existing CCR surface impoundment to make a demonstration that the facility meets certain location restrictions. More specifically, a CCR surface impoundment must satisfy certain location restriction criteria regarding fault areas, seismic impact zones, unstable areas, wetlands and the uppermost aquifer. The Ash Pond at Plant Daniel satisfies all of the location restrictions in the Rule except for the aquifer location restriction.

### **Fault Areas**

Per 40 C.F.R. § 257.62, the owner or operator must demonstrate that the facility is not located within 60 meters, or 200 feet, of the outermost damage zone of a fault that has had a displacement in Holocene time; otherwise, the owner or operator must demonstrate that an alternative setback distance of less than 60 meters, or 200 feet, will prevent damage to the structural integrity of the CCR unit.

The Ash Pond is located on Plant Daniel property, north of Moss Point, Mississippi. A review of available publications from USGS as well as an assessment of borings logs from the plant did not identify any faults within 200 feet of the Ash Pond.

### **Seismic Impact Zones**

Per 40 C.F.R. § 257.63, the owner or operator must demonstrate that the facility is not located within a seismic impact zone; otherwise, a demonstration must be made that all structural components including liners, leachate collection and removal systems and surface water control systems are designed to resist the maximum horizontal acceleration in lithified earth material for the site. A seismic impact zone is defined as an area having a 2% or greater probability that the maximum expected horizontal acceleration, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10g in 50 years.

The Peak Ground Acceleration for the Ash Pond, as determined using the online USGS Unified Hazard Tool, Conterminous U.S. 2014 (v4.0.x) was determined to be 0.046. Therefore, the Ash Pond is not located within a seismic impact zone.

The response to this request was prepared by: Brant Pettis

The response to the above information request provided to the Mississippi Public Utilities Staff is accurate and complete and contains no material misrepresentations or omissions based upon present facts known to the undersigned. The undersigned agrees to immediately inform the Staff if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the information request.

The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.

DATA REQUEST NO.:  
REQUEST DATE:

MPUS 1-3  
JULY 30, 2019

Page 2 of 3

### Unstable Areas

Per 40 C.F.R. § 257.64, the owner or operator must demonstrate that the facility is not located within an unstable area; otherwise, a demonstration must be made that recognized and generally accepted good engineering practices have been incorporated into the design of the CCR unit to ensure that the integrity of the structural components of the CCR unit will not be disrupted. An unstable area is defined in the CCR rule as a location that is susceptible to natural or human induced events or forces capable of impairing the integrity, including structural components of some or all of the CCR unit that are responsible for preventing releases from such unit. Unstable areas can include poor foundation conditions, areas susceptible to mass movements and karst terrains.

The Ash Pond is formed by excavation into natural soils and construction of engineered perimeter embankments. The perimeter embankments have been properly constructed using mechanical stabilization, compacted to a density sufficient to withstand the range of loading conditions. Factor of safety assessments have indicated that the embankments meet the minimum factors of safety required under the rule. The foundations beneath the embankments and the Ash Pond generally consist of stable and competent medium stiff to stiff clays and clays, along with medium dense to dense clayey and silty sands and sand. The Ash Pond is not located within active karst terrain, and the site and its surrounding areas are not subject to mass movements (e.g. landslides). The Ash Pond is not located in an unstable area.

### Wetlands

Per 40 C.F.R. § 257.61, the owner or operator must demonstrate that the facility is not located within a wetlands; otherwise, a demonstration must be made that certain criteria are met, as outlined in § 257.61(a)(1). Wetlands, as defined in 40 C.F.R. § 232.2, means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

The Ash Pond has been in operation since the 1990s. There is no documented record of wetlands having been located within the footprint of the facility. Operation of the facility does not cause or contribute to:

- A violation of any applicable state or federal water quality standard;
- A violation of any applicable toxic effluent standard or prohibition under section 307 of the Clean Water Act;
- Jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat protected under the Endangered Species Act of 1973; or

The response to this request was prepared by: Brant Pettis

The response to the above information request provided to the Mississippi Public Utilities Staff is accurate and complete and contains no material misrepresentations or omissions based upon present facts known to the undersigned. The undersigned agrees to immediately inform the Staff if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the information request.

The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.



DATA REQUEST NO.:  
REQUEST DATE:

MPUS 1-3  
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- A violation of any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary.

There has been no degradation of wetlands due to erosion, stability and migration of native wetland soils or fill materials used to support the Ash Pond.

The volume and chemical nature of the ash stored in the facility has not caused or contributed to degradation of wetlands.

Previous analyses have indicated that the CCR unit was constructed with perimeter embankments that are stable and meet all required minimum factors of safety outlined in the CCR Rule. Therefore, catastrophic release of CCR from the Ash Pond has not occurred during its years of operation and is not expected, and therefore no impacts to fish, wildlife or other aquatic resources or their habitat have occurred or are expected.

As a result, the Ash Pond satisfies the wetlands location restriction.

### **Uppermost Aquifer**

Per 40 C.F.R. § 257.60, the owner or operator must demonstrate that the facility has been constructed with a base that is located no less than 1.52 meters (5 feet) above the upper limit of the uppermost aquifer, or must demonstrate that there will not be an intermittent, recurring, or sustained hydraulic connection between any portion of the base of the CCR unit and the uppermost aquifer due to normal fluctuations in groundwater elevations (including the seasonal high water table).

Based on a review of available groundwater data, the Ash Pond is absent the minimum 5-foot separation between the base of the CCR unit and the upper limit of the uppermost aquifer as required by 40 C.F.R. §257.60, and therefore under current operating conditions does not meet this location restriction. Accordingly, the Ash Pond is subject to the cease-receipt and closure requirements provided in 40 C.F.R. § 257.101(b)(1)(i).

The response to this request was prepared by: Brant Pettis

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The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.

DATA REQUEST NO.:  
REQUEST DATE:

MPUS 1-4  
JULY 30, 2019

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On Page 4, Line 15, of the testimony of Mark P. Loughman, its states that "Based on a review of available groundwater data, the Ash Pond does not meet the minimum five-foot separation between the base of the CCR unit and the upper limit of the uppermost aquifer, and therefore under the current operating conditions does not meet this location restriction." Please provide a copy of the review along with details regarding the review performed including who performed the review, what data sources were reviewed, and the official findings of the review.

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

In October 2018, when the location restriction demonstration was prepared for the Daniel Ash Pond, Southern Company Services personnel obtained groundwater elevation information from the hydrogeologists involved with groundwater monitoring activities. The average groundwater elevations ranged from approximately EL 6.7 feet to EL 9.8 feet. The bottom of Ash Pond B is located at about EL 3.5. Therefore, we determined that the required five (5) feet of separation between the base of the CCR unit and the uppermost aquifer does not exist.

The response to this request was prepared by: Mark Loughman

The response to the above information request provided to the Mississippi Public Utilities Staff is accurate and complete and contains no material misrepresentations or omissions based upon present facts known to the undersigned. The undersigned agrees to immediately inform the Staff if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the information request.

The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.



DATA REQUEST NO.:  
REQUEST DATE:

MPUS 1-5  
JULY 30, 2019

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Please explain why MPC is proposing to expedited the closure of the Ash Pond if closure is not required until five years after the October 31, 2020, deadline to cease placing CCR and non-CCR waste streams in the Ash Pond.

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

The Company considered four options for LVW treatment:

1. Install traditional mechanical clarification and treatment
2. Build a new LVW Pond and make improvements to the CPR Pond
3. Repurpose the CPR Pond as an LVW Pond and build a new CPR Pond
4. Repurpose the Ash Pond as an LVW Pond

The first three options do not involve the Ash Pond, and if selected, would have allowed MPC the flexibility to use the entire five years allowed by the CCR Rule to close the Ash Pond. However, MPC selected the fourth option, repurposing the Ash Pond to serve as an LVW Pond, because it is the lowest cost option.

The Ash Pond currently serves dual roles as a bottom ash storage facility and LVW retention pond. The following LVW streams currently flow into the Ash Pond:

1. Coal Pile Runoff (CPR) Pond discharge
2. Wastewater Basin discharge
3. North Ash Management Unit (NAMU) leachate and storm water runoff
4. Central Ash Management Unit (CAMU) leachate and storm water runoff

Provisions for alternate treatment of these LVW streams will be required during the closure and repurposing of the Ash Pond. MPC plans to rent temporary clarifier trailers to treat these LVW streams. By expediting the closure of the Ash Pond, MPC can minimize the duration of the need for temporary clarifier trailers on site and, therefore, minimize the cost.

The response to this request was prepared by: Mark Loughman

The response to the above information request provided to the Mississippi Public Utilities Staff is accurate and complete and contains no material misrepresentations or omissions based upon present facts known to the undersigned. The undersigned agrees to immediately inform the Staff if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the information request.

The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.

DATA REQUEST NO.:  
REQUEST DATE:

MPUS 1-6  
JULY 30, 2019

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On Page 8 of Mark P. Loughman's testimony, it states that other alternatives to repurposing the Ash Pond were evaluated. Please explain in detail the options evaluated along with the estimated costs of each option.

RESPONSE: See Below (X) and/or See Attached (X)  
RESPONSE DATE: August 16, 2019

The Company considered three (3) other options for LVW management that did not include repurposing the Ash Pond:

1. Install traditional mechanical clarification and treatment;
2. Build a new LVW Pond and make improvements to the CPR Pond; and
3. Repurpose the CPR Pond as an LVW Pond and build a new CPR Pond.

The first option above would have involved the installation of a mechanical treatment system consisting of mix tanks, clarifiers, and sludge dewatering equipment. The mix tanks would provide chemical addition to adjust pH, allow for precipitation, and enhance settling performance. From the mix tanks, the water would be pumped to the clarifiers. The solids accumulated in the clarifier would be sent to a thickener. Sludge from the thickener would be dewatered using filter presses then sent to the landfill for disposal. The LVW Traditional Mechanical Clarifier Estimate is being provided as Attachment A.

The second option above would have involved modifications to the existing coal pile runoff (CPR) pond and the installation of a new LVW basin in an undeveloped wooded area east of the intake canal. This option would have required site clearing and grading, basin excavation and construction, the installation of a basin liner system, rerouting of LVW piping, installation of discharge pumps and piping, and associated access platforms, monitoring equipment, etc. It became clear that this option would be considerably more expensive than the other LVW options, so no formal cost estimate was developed.

The third option above would have involved repurposing the existing CPR pond for treatment of LVW streams and construction of a new CPR pond. This option would have required cleanout, excavation, and liner installation of the CPR pond, replacement of pumps, rerouting of LVW streams, construction of a new CPR pond, and associated access platforms, monitoring equipment, etc. The LVW Repurpose CPR Pond Estimate is being provided as Attachment B.

The response to this request was prepared by: Mark Loughman

The response to the above information request provided to the Mississippi Public Utilities Staff is accurate and complete and contains no material misrepresentations or omissions based upon present facts known to the undersigned. The undersigned agrees to immediately inform the Staff if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the information request.

The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.

Item Description	Qty	Unit	Labor Hours	Labor Total	Matl Total	Subs Hours	Subs Total	Engr Total	Engr Exp Total	Total Costs
<b>CECEN - CONSTRUCTION - ENGINEERING (ECS-CENG)</b>	0	HR		\$0	\$1,775,925	0	\$60,000	\$8,789,929	\$0	\$10,625,854
CECEN280 - Engineering Procured				\$0	\$1,775,925	0	\$60,000	\$0	\$0	\$1,835,925
CECEN285 - Design & Technical Services	0	HR		\$0	\$0	0	\$0	\$5,115,372	\$0	\$5,115,372
CECEN287 - SCS Project Support	0	HR		\$0	\$0	0	\$0	\$2,246,149	\$0	\$2,246,149
CECEN289 - SCS Front End Planning	0	HR		\$0	\$0	0	\$0	\$500,000	\$0	\$500,000
CECEN290 - Allocated EWO's				\$0	\$0	0	\$0	\$928,408	\$0	\$928,408
<b>COCIN - CONSTRUCTION INDIRECTS (ECS-CI)</b>	0	HR	0	\$0	\$0	0	\$0	\$3,743,581	\$0	\$3,743,581
COCIN150 - E&CS - Construction Management	0	HR		\$0	\$0	0	\$0	\$3,743,581	\$0	\$3,743,581
<b>COCPK - CONSTRUCTION PACKAGES (ECS-CP)</b>			184,637	\$16,246,961	\$19,523,966	2,718	\$2,632,202	\$1	\$0	\$38,403,130
COCPK001 - Underground Investigations / Site Work			27	\$931	\$0	484	\$287,837	\$0	\$0	\$288,768
COCPK003 - Deep Foundations			4,356	\$180,059	\$258,006	0	\$1,241,604	\$0	\$0	\$1,679,669
COCPK004 - Foundations			45,561	\$1,886,936	\$1,430,406	0	\$0	\$0	\$0	\$3,317,342
COCPK005 - Structural Steel			678	\$33,625	\$12,061	0	\$0	\$0	\$0	\$45,686
COCPK006 - Mechanical			60,542	\$2,843,479	\$15,091,285	0	\$511,521	\$0	\$0	\$18,446,285
COCPK007 - Electrical			10,934	\$459,723	\$412,109	0	\$0	\$0	\$0	\$871,831
COCPK008 - Instrumentation & Controls			425	\$18,281	\$15,000	0	\$0	\$0	\$0	\$33,281
COCPK009 - Insulation, Coatings & Linings			365	\$14,124	\$7,834	0	\$103,353	\$0	\$0	\$125,311
COCPK012 - Demolition			1,250	\$48,680	\$0	174	\$53,000	\$0	\$0	\$101,680
COCPK017 - Buildings / Architectural			500	\$21,022	\$0	0	\$0	\$0	\$0	\$21,022
COCPK021 - Underground Mechanical & Electrical			11,099	\$457,114	\$123,010	0	\$0	\$0	\$0	\$580,124
COCPK025 - Cells, Ponds and Landfills			48,900	\$1,687,823	\$1,025,811	2,060	\$343,846	\$0	\$0	\$3,057,480
COCPK029 - Scaffolding			0	\$918,216	\$0	0	\$0	\$0	\$0	\$918,216
COCPK030 - Contractor Indirects			0	\$7,676,948	\$1,148,445	0	\$91,041	\$1	\$0	\$8,916,435
<b>CAPITAL COSTS EXCLUDING OTHER</b>	0	HR	184,637	\$16,246,961	\$21,299,891	2,718	\$2,692,202	\$12,533,511	\$0	\$52,772,565
<b>CPCOC - CONSTRUCTION - PORTFOLIO OTHER COST (ECS-COC)</b>	0	HR	0	\$6,614,946	\$8,902,287	0	\$1,096,129	\$5,732,233	\$0	\$22,345,595
CPCOC300 - AFUDC/IDC				\$1,277,780	\$1,719,616		\$211,734	\$1,046,033	\$0	\$4,255,164
CPCOC301 - E&S				\$313,951	\$422,510		\$52,023	\$257,011	\$0	\$1,045,495
CPCOC304 - Escalation				\$1,098,828	\$1,478,785		\$182,081	\$899,537	\$0	\$3,659,232
CPCOC305 - Contingency				\$3,924,387	\$5,281,375		\$650,290	\$3,212,633	\$0	\$13,068,685
CPCOC308 - Plant Costs	0	HR	0	\$0	\$0	0	\$0	\$317,020	\$0	\$317,020
<b>TOTAL CAPITAL COST</b>	0	HR	184,637	\$22,861,907	\$30,202,178	2,718	\$3,788,331	\$18,265,745	\$0	\$75,118,161
<b>TOTAL PROJECT COST</b>	0	HR	184,637	\$22,861,907	\$30,202,178	2,718	\$3,788,331	\$18,265,745	\$0	\$75,118,161

Total Craft Hours 187,355

Project Name	Daniel LVWW Treatment - Option 2
Job Size	KW
Start Date	1/18/2019
Project Code	DAN18005
Estimator	M Reid
Type	Screening (-30 to +70%)
Estimate Number:	19-020
Revision:	A
Est Date:	2/22/2019
Estimator:	M Reid/D Kirk
Lead Estimator:	M Reid
Requestor:	R Sullivan
OPCo	MPC
Alternate Activator Mode	Selectable
Active Alternates	--- Base Estimate ---, INDIRECTS, Option 2 New CPR - Exist CPR to LVWW, Option 1 and 2 Common Items, Temp Water Treatment Opt 1&2

**BASIS OF ESTIMATE**

- 1) Option 2 is based on modifying the existing CPR Pond for use as the new LVWW Pond, and constructing a new CPR Pond. The estimate assumes work on this project will start by Q4 2019.
- 2) Craft labor rates are based on SCMM MS (50 HR) 2019 Gulf Coast rates.
- 3) The LVWW Option 2 construction duration has been communicated to Estimating to be approximately 21 months, which is reflected in calendar dependent quantities.
- 4) Allowances are included for costs associated with installation and operation of temporary water treatment equipment, including system inlet and outlet piping, power and potable water for process. There is no provision for inlet pumps outside what is provided by Westech in their Proposal No. 1710769 Rev 2, dated 8/27/2018. Allowances are based on scaling information as available from the Gorgas and Miller Ash Closure temporary water treatment systems. It is possible those allowances are less than actual requirements for system operation. Equipment rental is based on 11 months duration for mob/demob and operation.
- 5) No provision is made for DCS connection of the Plant systems to the temporary water treatment equipment.
- 6) No new CPR inlet piping is included pending sizing gravity storm drain from Perimeter Wet Pond to new CPR Pond.

Row Number	Alternate Name	Bid Item Code	Info Supplied By	CWA Location	UTxt19 Location	Discipline	Material Furnished By Code	WBS13 Code	WBS14 Code	Item Description	Qty	UOM	Labor Hours	Labor Total	Matl Total	Subs Hours	Subs Total	Engr Total	Engr Exp Total	Grand Total	Gross Total Costs
1	INDIRECTS									IND - INDIRECTS								6,492,904	875,604	7,368,508.46	10,273,911
2		1-COM								Common or not delineated								6,492,904	875,604	7,368,508.46	10,273,911
3									CECEN284	CECEN284 - Design & Technical Services - Construction Support								190,806		190,806.00	266,041
4									CECEN285	CECEN285 - Design and Technical Services		HR						3,176,895		3,176,895.30	4,429,545
5									CECEN287	CECEN287 - Project Support		HR						953,069		953,068.59	1,328,864
6									CECEN290	CECEN290 - Allocated EWO's								457,473		457,472.92	637,854
7									CECEN296	CECEN296 - Outsourced design & Tech Services - Construction Support	21.0	MO						684,798		684,798.00	954,814
8									COCIN150	COCIN150 - Construction Management		HR						1,588,448		1,588,447.65	2,214,773
9									CPCOC308	CPCOC308 - Plant Costs								317,020		317,020.00	442,021
10	Option 1 and 2 Common Items									COM - Option 1 and 2 Common Items			2,995.2	138,713	466,826				150,000	755,538.70	1,312,127
11		1-COM								Common or not delineated			2,995.2	138,713	466,826				150,000	755,538.70	1,312,127
12									COCPK004	COCPK004 - Foundations			165.2	6,994	3,566				10,559.87		26,713
13									COCPK005	COCPK005 - Structural Steel			571.7	30,097	61,946				92,043.11		174,886
14									COCPK006	COCPK006 - Mechanical			1,205.0	56,029	305,731				361,759.56		615,909
15									COCPK007	COCPK007 - Electrical	2,000.0	LF	834.0	35,836	39,049				74,884.87		173,342
16									COCPK008	COCPK008 - Instrumentation & Controls	2.0	EA	61.0	2,621	56,000			150,000	208,621.12		299,905
17									COCPK021	COCPK021 - Underground Mechanical & Electrical	1,000.0	LF	158.3	7,135	535				7,670.17		21,372
18	Option 2 New CPR - Exist CPR to LVWW									Opt 2 - Option 2 New CPR - Exist CPR to LVWW			160,570.2	6,742,451	5,804,625	72,080	4,159,289		16,706,364.40		36,328,429
19		1-COM								Common or not delineated			11,955.9	513,733	1,046,050				1,559,782.38		3,163,041
20									COCPK007	COCPK007 - Electrical	29,359.9	LF	11,658.5	500,955	1,044,148				1,545,102.41		3,122,591
21									COCPK021	COCPK021 - Underground Mechanical & Electrical	310.0	LF	297.4	12,778	1,902				14,679.97		40,450
22		1-CPL								Coal Pile, Perim WP & Sumps			2,495.4	99,225	70,043	941	126,176		295,443.18		611,554
23									COCPK001	COCPK001 - Site Improvements			658.6	23,397	25,241	840	121,500		170,137.63		307,875
24									COCPK004	COCPK004 - Foundations			1,152.6	48,809	22,577				71,385.58		182,317
25									COCPK005	COCPK005 - Structural Steel			177.7	9,030	20,101				29,131.39		54,874
26									COCPK012	COCPK012 - Demolition			70.8	2,515	2,124				4,638.99		11,514
27									COCPK015	COCPK015 - Site Work Restoration	2,420.0	SY	435.6	15,474		101	4,676		20,149.58		54,973
28		1-CPR								CPR Pond			49,498.4	2,155,045	2,050,801	68,395	3,578,486		7,784,332.70		15,483,893
29									COCPK001	COCPK001 - Site Improvements			343.4	12,200					12,199.95		37,547
30									COCPK003	COCPK003 - Deep Foundations			3,600.0	189,537	177,120				366,656.91		835,230
31									COCPK004	COCPK004 - Foundations			13,552.7	575,109	618,572				1,193,681.03		2,773,558
32									COCPK005	COCPK005 - Structural Steel			469.8	24,736	37,703				62,439.13		123,923
33									COCPK006	COCPK006 - Mechanical			10,918.5	517,811	303,846				821,657.25		2,001,141
34									COCPK008	COCPK008 - Instrumentation & Controls	36.0	EA	357.9	15,378	13,150				28,527.80		64,666
35									COCPK009	COCPK009 - Insulation, Coatings & Linings			1,900.0	62,085	18,240				80,325.38		228,984
36									COCPK012	COCPK012 - Demolition			500.0	20,552					20,552.05		60,410
37									COCPK016	COCPK016 - Permanent Fencing, Parking, Roadways & Related Lighting	2,500.0	LF	4,412.6	156,748	131,577				288,324.64		716,170
38									COCPK021	COCPK021 - Underground Mechanical & Electrical	11,400.0	LF	13,443.4	580,890	750,593				1,331,482.57		3,016,060
39									COCPK025	COCPK025 - Cells, Ponds and Landfills						68,395	2,303,922		2,303,921.76		3,622,295
40									COCPK030	COCPK030 - Contractor Indirects							1,274,564		1,274,564.23		2,003,908
41		1-LVWW								LVWW Pond			96,620.6	3,974,448	2,637,731	2,744	454,627		7,066,806.14		17,069,941
42									COCPK001	COCPK001 - Site Improvements			36.1	1,284					1,283.77		3,951
43									COCPK003	COCPK003 - Deep Foundations			900.0	47,384	44,280				91,664.23		208,807
44									COCPK004	COCPK004 - Foundations			1,618.0	69,312	39,798				109,109.82		271,972
45									COCPK005	COCPK005 - Structural Steel			127.5	6,712	10,480				17,191.27		33,995
46									COCPK006	COCPK006 - Mechanical			41,578.1	1,975,299	1,151,859				3,127,158.13		7,618,301
47									COCPK008	COCPK008 - Instrumentation & Controls	74.0	EA	673.4	28,934	30,475				59,408.86		130,275
48									COCPK009	COCPK009 - Insulation, Coatings & Linings			500.0	16,338	4,800				21,138.26		60,259
49									COCPK016	COCPK016 - Permanent Fencing, Parking, Roadways & Related Lighting	2,500.0	LF	258.5	9,181	59,800				68,981.21		134,498
50									COCPK021	COCPK021 - Underground Mechanical & Electrical	1,200.0	LF	1,415.1	61,145	79,010				140,154.68		317,476
51									COCPK025	COCPK025 - Cells, Ponds and Landfills			49,514.0	1,758,859	1,217,230	2,744	454,627		3,430,715.93		8,290,407
52	Temp Water Treatment Opt 1&2									TempWT - Temp Water Treatment Opt 1&2			4,400.0	193,157	7,149,954		590,400		7,933,511.49		12,102,363
53		1-WT								Temporary Water Treatment			4,400.0	193,157	7,149,954		590,400		7,933,511.49		12,102,363
54									COCPK013	COCPK013 - Water Treatment & Cooling	11.0	MO	4,400.0	193,157	7,149,954		590,400		7,933,511.49		12,102,363
55										Grand Total		KW	167,965.4	7,074,321	13,421,405	72,080	4,749,689	6,492,904	1,025,604	32,763,923.04	60,016,831

Summary Code	Summary Name	Labor	Material	Subcontractor	Engineering	Engineering Expenses	Total
CONTR	Contractor Furnished Materials	6,631,839	5,115,228	4,159,289		1,920	15,908,275
ENGP	Engineering (DOW 280) Procured Materials	204,058	903,660		6,175,884	341,751	7,625,353
FPM	Field (Owner) Procured Materials	238,424	7,402,517	590,400	317,020	681,933	9,230,294
					TP010 - Mob/Demob - Contractor Material		153,457
					TP020 - Mob/Demob - Direct Labor		247,601
					TP030 - Contractor's Supervision		2,183,551
					TP040 - Indirect Labor		565,946
					TP050 - Small Tools + Consumables		587,879
					TP055 - Craft Labor Per Diem		
					TP080 - Scaffolding		848,918
					TP100 - Temporary Facilities		495,202
					TP110 - Construction Equipment - Contractor		1,091,775
					TP115 - Construction Equipment - Heavy Lift		
					TP120 - Bonds + Insurance		35,372
					TP130 - Freight - Contr. Furn Material		153,457
					TP140 - Sales Tax - Contr. Furnished Matl		358,066
					Subtotal		39,485,147
					TP150 - Contractor O'hd + Profit - Material		578,021
					TP160 - Contractor O'hd + Profit - Lbr/Eq		1,313,057
					TP170 - Contractor O'hd + Profit - Sub		474,969
					TP700 - Total Construction Cost		41,851,193
					TP190 - Freight - Owner Furnished Matl		27,110
					TP195 - Freight - Field Furnished Matl		222,076
					TP200 - Sales Tax - Owner Furnished Matl		31,628
					TP205 - Sales Tax - Field Furnished Matl		259,088
					Total Estimate		42,391,095
					TP280 - Contractor's Tax - Labor (MS)		688,390
					TP290 - Contractor's Tax - Material (MS)		222,538
					TP210 - Contingency		10,597,774
					TP220 - Escalation		2,543,466
					TP230 - E+S - Installation		847,822
					TP240 - AFUDC		2,725,747
					Estimate Grand Total		60,016,831



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On Page 10 of Mark P. Loughman's testimony, it states that other alternatives to the Bottom Ash Conversion project were evaluated. Please explain in detail the options evaluated along with the estimated costs of each option.

RESPONSE: See Below (X) and/or See Attached (X)  
RESPONSE DATE: August 16, 2019

In addition to the proposed Submerged Grind Conveyor (SGC) system, the Company evaluated four (4) other bottom ash dewatering systems:

#### **Remote Submerged Chain Conveyor**

The Remote Submerged Chain Conveyor (RSCC), also referred to as a Remote Drag Chain Conveyor (RDCC), is an ash handling system that allows for the continued wet sluicing of coal ash but replaces the back-end handling system (typically an ash pond) with a remote mechanical system. The RSCC is a large mechanical flight conveyor that drags settled ash out of the bulk storage area up a dewatering incline where it is dropped onto a concrete pad for storage and loading into trucks. The system uses a series of metal "flights" supported and driven by two large chains to move the ash through the system and up the incline. The ash is sluiced wet to the RSCC but as it drops over onto the storage pad the material is "dry" and ready to be transported or stored.

The RSCC operates as a close looped wet system. This requires the installation of a series of tanks and pumps to capture and return the water from the sluicing events back to the units during operation. That water must also be treated to protect the system from corrosion and erosion due to chemistry and solids carry over.

#### **Hydrobin Dewatering Bin**

The Hydrobin is a large elevated settling tank that also utilizes wet sluicing to transport the ash to the tank. The tank utilizes a series of baffle plates and water weirs to dewater the material where it is dropped into a storage container or directly into a truck.

This system requires the installation of a series of tanks and pumps to capture and return the water from the sluicing events back to the units during operation. That water must also be treated to protect the system from corrosion and erosion due to chemistry and solids carry over.

#### **Pneumatic Ash Extractor**

The Pneumatic Ash Extractor (PAX) is a dry bottom ash pneumatic conveying system. The system utilizes crushers, vacuum producers and blowers to transport the ash to a large storage silo in a remote location from the unit. The system is a completely dry transport system. This requires the existing wet ash hoppers on the units be retrofitted to dry hoppers and new crushers and piping systems added to transport the ash. Silos must also be added for the

The response to this request was prepared by: Mark Loughman

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The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.

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storage of the material. The material is then conditioned with water to prevent dusting and loaded into trucks for transportation. Because the system is dry it requires no water treatment or recirculation equipment.

#### **Magaldi Ash Cooler**

The Magaldi Ash Cooler (MAC) is a dry bottom ash mechanical conveying system. The system uses a series of large metal conveyor belts to transport and cool the ash from under the boiler to an intermediate storage location. From that location, the ash is often then transported pneumatically to a storage silo in a remote location to the unit. The pneumatic transportation requires blowers and transport piping to convey the ash. The MAC system requires a total retrofit and demo of the bottom ash hoppers to allow for the dry conveyors to be positioned under the boilers. Because the system is dry it requires no water treatment or recirculation equipment.

Screening level cost estimates were developed for each option for comparison purposes. These screening estimates were developed at a point in the process where very little engineering has been completed. Certain assumptions were necessary in order to develop the screening estimates, such as:

- All existing infrastructure is sufficient and in good condition to support all new components.
- Relocation of existing equipment will not be required.
- Significant re-routing of undergrounds will not be required.

The portion of the screening estimates for civil and electrical work was based on factored and historical data, not project-specific requirements. Therefore, the accuracy range of screening estimates is -30% to +70%. The screening estimates for each option are provided in Attachment A.

The response to this request was prepared by: Mark Loughman

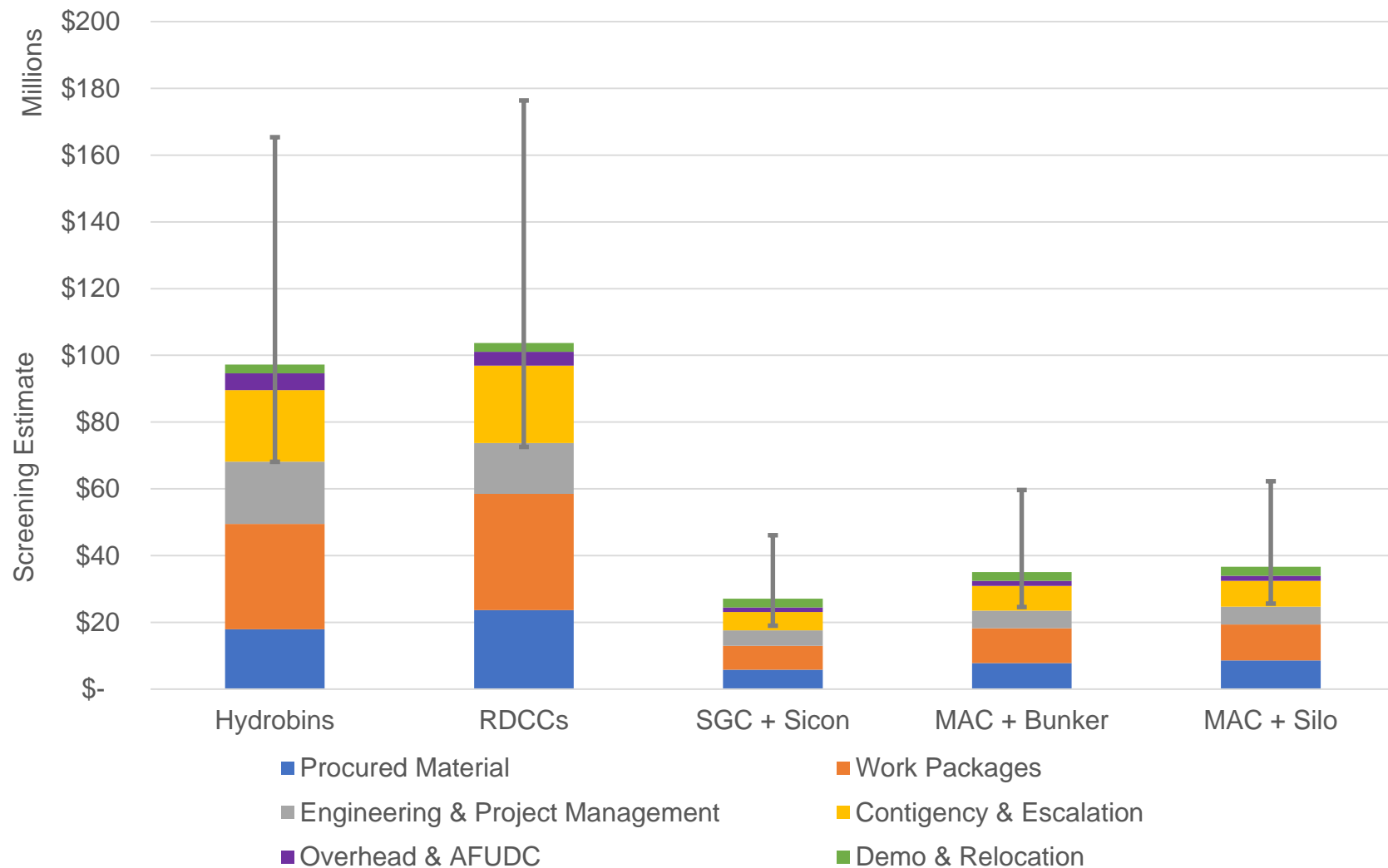
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# Dry Bottom Ash Conversion Options

12/6/2016



## Dry Bottom Ash Conversion Options

8/21/2018

Option	Cost
PAX with Common Silo	<b>\$39.1M</b>
Magaldi (Commo Silo)	<b>\$39.5M</b>
SGC+Sicon	<b>\$27.1M</b>
SGC with bunker	<b>\$22.5M</b>

## Dry Bottom Ash Conversion Options

1/24/2018

Option	Screening level cost range
PAX (Common silo)	\$39.1M – \$66.5M
Magaldi (Common silo)	\$39.5M – \$67.2M
RSCC	\$103.7M – \$176.3M
Hydrobin	\$97.3M – \$165.4M
SGC (Includes Bottom Ash Hoppers)	\$29M – \$44.8M

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On Page 10 of Mark P. Loughman's testimony, it states, "Retirement of either Unit 1 or Unit 2 at Plant Daniel prior to the 2020 deadline for ceasing waste streams into the Ash Pond is not feasible given current transmission constraints." Please explain in detail the transmission constraint issue that prohibits retirement of the Daniel coal units before the 2020 deadline.

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

Mississippi Power Company objects to this request pursuant to Rule 6.122(5) of the Commission's Public Utilities Rules of Practice and Procedure on the grounds that the documents and information requested contain confidential and proprietary commercial and financial information and trade secret information of Mississippi Power Company under Sections 25-61-9, 25-61-11, 75-26-3 and 79-23-1 of the Mississippi Code of 1972, as amended.

Without waiving its objection, MPC would state that information ("Confidential Information") responsive to this request is being filed confidentially with the Mississippi Public Utilities Staff as an attachment hereto under separate confidential cover. That attachment and the Confidential Information contained therein has been clearly designated as "Confidential" and is on file with the Staff and the Commission pursuant to Rules 4.100(3) and 4.101(3) of the Commission's Public Utilities Rules of Practice and Procedure. Mississippi Power Company hereby requests that all such Confidential Information filed with the Staff and/or Commission and marked "Confidential" be maintained as such to the fullest extent of the law and the Commission's Rules.

The Confidential Information derives economic value from not being generally known to, and not being readily ascertainable by proper means by other persons who can obtain economic value from its disclosure or use.

Additionally, the Confidential Information is subject to extensive efforts to maintain its secrecy. Only select Mississippi Power Company and Southern Company Services personnel are granted access to the Confidential Information.

The transmission constraint issues mentioned in Mr. Loughman's testimony that prohibit the retirement of the Daniel coal units before the 2020 deadline consist of multiple transmission line projects on both MPC's and Alabama Power Company's (APC's) transmission systems as identified in previous Southern Electric System (SES) transmission planning studies. A copy of the transmission constraints identified in the March 2019 analysis for a Daniel Unit 1 and Unit 2 retirement scenario is being provided confidentially only.

The response to this request was prepared by: Patrick Leathers

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The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.

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Generation resource assumptions outside of MPC's footprint that were used in the March 2019 analysis continue to change. As a result of recent generation resource decision changes in neighboring systems and the changing ash pond closure timeline discussed in MPUS 1-10, the SES transmission planning study is in the process of being updated to determine any impacts to the required transmission improvements needed to support the retirement of Daniel Units 1 and 2. The updated analysis, including an estimated construction timeline to complete the required transmission improvements, is planned to be completed by early September. Results of the updated analysis will be provided as a supplement to this data request once completed.

The response to this request was prepared by: Patrick Leathers

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MPUS 1-9  
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In reference to MPUS 1-8, could the transmission improvement projects be expedited to accommodate retirement of the Daniel coal units to meet the 2020 deadline? Please explain.

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

The transmission improvement projects provided in response to MPUS 1-8 cannot be expedited to accommodate retirement of the Daniel coal units to meet the 2020 deadline due to the quantity and scope of the projects involved in order to maintain the reliability of the bulk electric system.

As noted in the response to MPUS 1-8, generation resource assumptions outside of MPC's footprint that were used in the Daniel Unit 1 & Unit 2 coal unit retirement analyses have recently changed. As a result of these generation resource decision changes and the changing ash pond closure timeline discussed in MPUS 1-10, the SES transmission planning study is in the process of being updated to determine any impacts to the required transmission improvements needed to support the retirement of Daniel Units 1 and 2. Results of this updated analysis and an estimated construction timeline to complete the transmission improvements is scheduled to be completed by early September. Results of the updated analysis will be provided as a supplement to this data request once completed.

The response to this request was prepared by: Patrick Leathers

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REQUEST DATE:

MPUS 1-10  
JULY 30, 2019

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On Page 11 of Mark P. Loughman's testimony, it states that the Rule allows for CCR to continue to be placed into the Ash Pond beyond the 2020 deadline if both co-owners of the Daniel coal units certify that the units will be retired no later than October 17, 2023. What is Gulf Power Company's current position on the retirement of the units? Please explain.

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

MPC and Gulf Power are co-owners of Daniel Units 1 and 2 (and related common facilities) with each having a 50% undivided ownership interest in the entire plant (both Units). MPCo operates the co-owned facilities for itself and as agent for Gulf Power. As of January 1, 2019, Gulf Power is no longer an affiliate of MPC as a result of Southern Company's sale of Gulf Power to a subsidiary of NextEra Energy pursuant to a Stock Purchase Agreement. The following is a summary of the agreement as it relates to Plant Daniel.

The Stock Purchase Agreement for the sale of Gulf Power to NextEra and related documents include the following provisions (in pertinent part):

Gulf may retire its interest in Plant Daniel at any time provided it provides 5 years written notice to MPC of such intent. On the date of retirement set forth in the notice, MPC shall have the option to buy such interest for \$1. If MPC declines to purchase the interest, Gulf shall remain responsible for the its [sic] ownership share of a) the costs to operate and maintain common facilities (other than the cost of post-retirement capital additions) and b) the costs of decommissioning Plant Daniel.

and

The Parties commit to work in good faith and use reasonable best efforts to develop a proposal under which each party will become 100% owner of a unit while maintaining a shared interest in common facilities:

- a. Under such proposal, each party will be fully responsible for and will bear the costs of its unit and be entitled to the output of that unit.
- b. The parties will use reasonable best efforts to implement this structure no later than the end of calendar year 2023, including obtaining regulatory approvals to the extent required.

The response to this request was prepared by: David Schmidt

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By letter dated January 15, 2019, Gulf Power notified MPC of its intent to retire its 50% undivided interest in Units 1 and 2 at Plant Daniel on January 15, 2024 “. . . or such earlier time as GPC and MPC mutually agree, it being the desire of GPC to retire its interest as early as practicable.” The parties are still in discussions regarding a suitable arrangement under which each will become a 100% owner of a separate single unit while maintaining the shared undivided ownership interest in the related common facilities.

As noted later in the same testimony response on Page 11 of Mark P. Loughman’s testimony, even if both co-owners were to certify that the units will be retired no later than October 17, 2023:

“the maximum time available to continue use of the Ash Pond would become a function of the anticipated duration of closure activities. Given the stringency of the closure requirements and the time necessary to comply with them, cessation of CCR waste streams would be required prior to completion of the transmission improvement projects in 2022. The Bottom Ash Conversion would be required to allow the units to remain in service until these transmission improvement projects are completed in order to maintain the reliability of the electric system.

Another factor that MPC considered is that the extension for ceasing operation of coal-fired boilers does not apply to non-CCR waste streams. Therefore, under this scenario, MPC would have to construct a new LVW Pond prior to October 31, 2020. That is, MPC must cease placing CCR and non-CCR waste streams into the Ash Pond no later than October 31, 2020. Considering all of these factors, MPC has concluded that the CCR projects must be completed as scheduled in order to maintain the reliability of the electric system, regardless of the long-term economics of the units.”

Recently, on July 12, 2019, the Company completed a study that found that the elevated levels of constituents observed during our required groundwater monitoring can be attributed to naturally occurring sources in regional soils. This Alternate Source Demonstration (ASD) was completed in accordance with the requirements of the CCR Rule at 40 CFR Part 257.94(e)(2). As a result of this ASD, MPC does not currently anticipate requirements to do an assessment of corrective measures, delineation of impacts, groundwater corrective action, and extended post-closure monitoring. This means that it may be possible to complete closure of the ash pond more quickly than was anticipated when Mr. Loughman’s testimony was developed. MPC is performing updated transmission studies to understand what, if any, flexibility that this change may allow. MPC will supplement this data request when the updated transmission studies have been completed.

The response to this request was prepared by: David Schmidt

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DATA REQUEST NO.:  
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MPUS 1-11  
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What is the estimated cost of constructing a new LVW Pond for non-CCR waste streams before October 31, 2020? What is the estimated cost for construction of the LVW Pond beyond the October 31, 2020?

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

No formal cost estimate was developed for the option of building a new low volume wastewater (LVW) pond due to schedule and permitting issues. As MPC considered this option, it became clear that this option would be prohibitively expensive and that MPC did not have sufficient time to build a new pond, re-route the piping for the various LVW streams, and get modifications to our NPDES permit prior to October 2020.

The best site available for a new pond is a significant distance from the existing ash pond and would have required additional costs in piping and balance of plant infrastructure. Also, the permitting timeline is 9 to 12 months after submitting a complete application, which we could do only after completing the design and engineering.

The best option for LVW is to repurpose the area where the existing ash pond is located. This will be done after completing closure of the ash pond, beginning approximately in the 4th quarter of 2021. The estimated cost for the LVW treatment projects is \$43.9 million, as detailed in Exhibit\_\_\_(MPL-3).

The response to this request was prepared by: Mark Loughman

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MPUS 1-12  
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What is the Company's projected retirement date of the Daniel coal units? Please explain.

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

The retirement dates assumed for the purpose of calculating depreciation rates in the most current Depreciation Rate Study filed on December 29, 2014 and approved by the MPSC on December 3, 2015 are as follows:

- Daniel 1 – 2042
- Daniel 2 – 2046

These assumed retirement dates are based on an estimated useful life of 65 years. The estimated useful life is based on experience with similar units in Southern Company's fleet as well as those in the broader industry. The depreciation study performed in anticipation of a rate filing this fall assumes the same dates shown above.

The response to this request was prepared by: David Schmidt

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MPUS 1-13  
JULY 30, 2019

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Please explain how accelerated retirement of the Daniel coal units would affect the CCR projects and the Company's projected cost estimates for the CCR projects?

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

Of the three CCR projects included in this filing, two will be required regardless of the timing of retirement of the Daniel coal units. The ash pond does not meet the location restrictions in the CCR Rule and must be closed in accordance with the criteria in the Rule. The ash pond also serves as the LVW retention basin for coal pile runoff, wastewater basin discharge, and leachate from the North Ash Management Unit and the Central Ash Management Unit. Construction of new LVW treatment systems is necessitated by the required closure of the ash pond.

The bottom ash conversion project could potentially be avoided, less the costs incurred and committed to date, but only if early retirement of the coal units does not create a system reliability issue.

If the retirement of the coal units were accelerated, it is possible that the scope of the new LVW system could be different, as there would be less LVW to treat. However, no engineering or cost estimates have been developed for this scenario.

It is important to note however, that the alternative closure provision in the CCR Rule for permanent cessation of coal-fired boiler operation (40 CFR 257.103(b)) does not provide any extension for non-CCR waste streams beyond October 31, 2020. A treatment system for non-CCR waste streams sized to treat the full volume of LVW would be needed for a period of years past the October 31, 2020 cease receipt date until the completion of necessary transmission improvements and subsequent closures of the coal pile and Coal Pile Runoff Pond.

Also, in addition to the costs mentioned above, accelerated retirement of the coal units would also trigger the closure of several facilities that are recorded as Asset Retirement Obligations (AROs). The closure of these AROs is estimated to cost nearly \$40 million.

The response to this request was prepared by: Mark Loughman

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MPUS 1-14  
JULY 30, 2019

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What are the consequences of the Company not meeting the Ash Pond cease-receipt deadline of October 2020? Please explain.

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

It is the Company's policy to fully comply with all legal requirements, including deadlines imposed by regulation. MPC will comply with the requirements of the CCR Rule, including the cease-receipt deadline, or the Company will not run the units. If necessary, the Company would have no choice but to cease operation of the units in order to comply. Certain critical transmission improvements are currently planned with the earliest possible completion years beyond the cease-receipt deadline. Ceasing operations of the units on October 31, 2020, prior to the completion of the transmission improvements, would result in an unacceptable increase in risk to the reliable operation of the electric system. In addition to grid reliability impacts, MPC would have to install costly temporary water treatment equipment to treat the other waste streams that are currently discharging into the Ash Pond until a permanent LVW treatment system could be constructed.

In the event that the Company fails to comply with a regulatory requirement and continues to run the units, the U.S. EPA may pursue enforcement against the Company (including assessing civil penalties for violations which accrue each day the Company is not in compliance), the CCR unit could be considered an "open dump" due to its failure to comply with the requirements of the CCR rule, and the Company could also be liable for noncompliance under federal citizen suits, which could make the Company's compliance decisions a subject of judicial interpretation (and could thus cause the Company to lose control of its closure process). See 42 U.S.C. § 6945(d)(6).

The response to this request was prepared by: Mark Loughman

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JULY 30, 2019

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Is the EPA's current Rule being challenged? Please explain.

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

EPA finalized Part One of the Phase One Amendments to the Coal Combustion Residuals (CCR) Rule (the Phase One, Part One rule) on July 31, 2018, allowing additional time (from April 15, 2019 to until October 31, 2020) to cease receipt of CCR and non-CCR waste streams for CCR surface impoundments that would trigger forced closure due only to exceedance of a groundwater protection standard and/or inability to demonstrate 5 feet of vertical separation from the uppermost aquifer.

On October 22, 2018, environmental petitioners filed a petition for review of the Phase One, Part One rule followed on December 17, 2018 by a motion requesting the D.C. Circuit Court of Appeals to stay or vacate the deadline extensions. EPA filed a motion requesting voluntary remand of the Phase One, Part One rule without vacatur, with the intent to re-establish the appropriate cease receipt deadlines through a formal rulemaking.

On March 13, 2019, the D.C. Circuit Court of Appeals issued an order granting EPA's motion to remand the rule without vacatur and denying environmental petitioners' motion for a partial stay or vacatur of the rule. As a result of that decision, the October 31, 2020 deadline extension for qualifying impoundments remains in place while EPA undertakes a new rulemaking establishing a new deadline for initiating closure.

The Phase 1 Part 1 rulemaking is anticipated to take until at least January 2020 to complete, and the new cease-receipt deadline could be sooner than or later than October 31, 2020.

The response to this request was prepared by: Mark Loughman

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Has MPC started the required process to change its NPDES permits? If so, please explain the status.

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

Yes. Company representatives met with Mississippi Department of Environmental Quality (MDEQ) officials in July 2019 for a pre-application meeting to review the proposed changes in ash handling and low volume wastewater treatment at Plant Daniel. The Company intends to submit a water discharge permit renewal application reflecting the future operations by the end of 2019.

Concurrently, MPC is developing a dewatering plan that explains the temporary water treatment equipment that will be required for Ash Pond closure and pond repurposing. The Company expects to submit this dewatering plan to MDEQ in September 2019.

The response to this request was prepared by: Mark Loughman

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To date, has the Company received the required permits from MDEQ?

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

MPC has not yet requested nor received any permits or approvals for the Plant Daniel CCR Projects. However, we anticipate that certain approvals and permit modifications will be required from the Mississippi Department of Environmental Quality (MDEQ). Specifically, the Company will need MDEQ's approval for the dewatering plan as we close the ash pond. The Company will also need to make changes to our NPDES water discharge permit (upon renewal) to account for the changes in our low volume wastewater treatment system.

The MDEQ is aware of the proposed Plant Daniel CCR projects. The Company intends to keep them informed and engaged; and will seek the required approvals and permit changes when appropriate.

The response to this request was prepared by: Mark Loughman

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MPUS 1-18  
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The Company states that the CCR projects are estimated to cost approximately \$125 million with MPC's portion of the projects estimated at \$62.5 million. Please provide a breakdown of the overall estimate by CCR project.

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

The following table provides a breakdown of the overall estimate by CCR project:

Scope	Engineering & Procurement	Construction	Other Costs	Total
Dry Bottom Ash Conversion	\$12,223	\$24,141	\$11,384	<b>\$47,748</b>
Ash Pond Closure	\$8,872	\$14,907	\$9,729	<b>\$33,507</b>
LVW Pond Installation (repurpose Ash Pond)	\$2,480	\$5,436	\$3,308	<b>\$11,223</b>
LVW Permanent Treatment & Balance of Plant	\$4,135	\$3,373	\$3,900	<b>\$11,407</b>
LVW Temporary Treatment	\$0	\$13,749	\$6,168	<b>\$19,917</b>
Coal Pile Improvements	\$185	\$801	\$445	<b>\$1,432</b>
<b>Total</b>	<b>\$27,894</b>	<b>\$62,406</b>	<b>\$34,934</b>	<b>\$125,234</b>

Notes:

1. "Procurement" includes major equipment – i.e. equipment which requires the development of engineering specifications for procurement. Other equipment and materials are included in "Construction".
2. "Other Costs" include AFUDC, MPC labor, contingency, and escalation.

The response to this request was prepared by: Mark Loughman

The response to the above information request provided to the Mississippi Public Utilities Staff is accurate and complete and contains no material misrepresentations or omissions based upon present facts known to the undersigned. The undersigned agrees to immediately inform the Staff if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the information request.

The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.



DATA REQUEST NO.:  
REQUEST DATE:

MPUS 1-19  
JULY 30, 2019

Page 1 of 1

Please provide an estimated spend by CCR project for each year. Also, please provide the amount that the Company plans to include in the ECO filings for the years ending 2019, 2020, 2021, and 2022 and the impact on the revenue requirement for each year.

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

The estimated amounts to be included for Plant Daniel CCR projects in ECO are \$5.88 million in 2019, \$27.58 million in 2020, \$23.77 million in 2021, and \$9.07 million in 2022. These numbers represent MPC ownership.

The response to this request was prepared by: Mark Loughman

The response to the above information request provided to the Mississippi Public Utilities Staff is accurate and complete and contains no material misrepresentations or omissions based upon present facts known to the undersigned. The undersigned agrees to immediately inform the Staff if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the information request.

The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.

DATA REQUEST NO.:  
REQUEST DATE:

MPUS 1-20  
JULY 30, 2019

Page 1 of 1

Did MPC include a contingency percentage in its project estimate of \$125 million. If so, please provide the percentage and amount included in the project estimate.

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

The Plant Daniel CCR Projects estimate of \$125 million includes contingency of \$23 million or 18 percent.

Project Description	Total Estimated Cost (\$M)	Contingency (\$M)	% Contingency of Construction Costs	% Contingency of Total Project
Bottom Ash Conversion	\$47.70	\$6.77	18%	14%
Ash Pond Closure	\$33.50	\$7.34	30%	22%
LVW Treatment	\$43.90	\$8.95	30%	20%
<b>Total</b>	<b>\$125.10</b>	<b>\$23.06</b>		<b>18%</b>

The response to this request was prepared by: Mark Loughman

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The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.

DATA REQUEST NO.:  
REQUEST DATE:

MPUS 1-21  
JULY 30, 2019

Page 1 of 1

How does MPC plan to fund the CCR projects? Has a percentage of cost-of-removal been included in the Company's depreciation rates for the assets? Please indicate if there are any ARO or cost of removal accruals on the books to offset the costs of the CCR projects.

RESPONSE: See Below (X) and/or See Attached (X)  
RESPONSE DATE: August 16, 2019

Please see Exhibit\_\_\_\_(MPL-3). The only ARO component is for the Ash Pond Closure, and there is no COR associated with this Project. The Dry Bottom Ash Conversion and LVW Treatment Projects will be capital projects and the existing assets (i.e. hoppers and LVW infrastructure) will be removed using COR.

See Attachment A.

The response to this request was prepared by: Ben Vance

The response to the above information request provided to the Mississippi Public Utilities Staff is accurate and complete and contains no material misrepresentations or omissions based upon present facts known to the undersigned. The undersigned agrees to immediately inform the Staff if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the information request.

The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.

Daniel CCR Projects

\$\$ in Millions

	2019			2020			2021			2022		
	Capital	ARO	Non-ARO COR	Capital	ARO	Non-ARO COR	Capital	ARO	Non-ARO COR	Capital	ARO	Non-ARO COR
<i>Total Project</i>												
<b>CCR Ash Management</b>	<b>47.70</b>	9.61		37.69		0.4						
U1 and U2 Dry Bottom Ash												
<b>Low Volumn Waste Water Treatment</b>	<b>36.43</b>	0.59		6.96			16.47			12.41		
U1 and U2 WW Management												
<b>Bottom Ash Pond Closure</b>	<b>33.50</b>		1.30		7.25			24.31			0.64	
ARO - Daniel Bottom Ash												
<b>CC Waste Water Management</b>	<b>7.46</b>	0.12		1.43			3.37			2.54		
U3 and U4 WW Management												
	<u><b>125.09</b></u>											
<b>Total non-ARO COR =&gt;</b>	<b>0.40</b>											
<b>Total Capital =&gt;</b>	<b>91.19</b>											
<b>Total ARO =&gt;</b>	<b>33.50</b>											
<b>Total</b>	<u><b>125.09</b></u>											
<i>MPC Ownership</i>												
<b>CCR Ash Management</b>	<b>23.85</b>	4.805		18.845		0.2						
U1 and U2 Dry Bottom Ash												
<b>Low Volumn Waste Water Treatment</b>	<b>18.22</b>	0.30		3.48			8.24			6.21		
U1 and U2 WW Management												
<b>Bottom Ash Pond Closure</b>	<b>16.75</b>		0.65		3.63			12.16			0.32	
ARO - Daniel Bottom Ash												
<b>CC Waste Water Management</b>	<b>7.46</b>	0.12		1.43			3.37			2.54		
U3 and U4 WW Management												
	<u><b>66.28</b></u>											
<b>Total non-ARO COR =&gt;</b>	<b>0.20</b>											
<b>Total Capital =&gt;</b>	<b>49.33</b>											
<b>Total ARO =&gt;</b>	<b>16.75</b>											
<b>Total</b>	<u><b>66.28</b></u>											

DATA REQUEST NO.:  
REQUEST DATE:

MPUS 1-22  
JULY 30, 2019

Page 1 of 1

Please provide any engineering plans, specifications, or design documents used to develop the cost estimates for the CCR projects.

RESPONSE: See Below (X) and/or See Attached (X)  
RESPONSE DATE: August 16, 2019

Please refer to the following attachments:

- Attachment A – Ash Pond Closure and Repurposing Plans
- Attachment B – Dry Bottom Ash Conversion General Arrangements and Piping & Instrumentation Diagrams (P&IDs)
- Attachment C – List of Items Included in LVW Pre-Treatment Estimate
- Attachment D – LVW Pre-Treatment P&IDs

The response to this request was prepared by: Mark Loughman

The response to the above information request provided to the Mississippi Public Utilities Staff is accurate and complete and contains no material misrepresentations or omissions based upon present facts known to the undersigned. The undersigned agrees to immediately inform the Staff if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the information request.

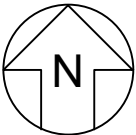
The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.

N:\MISSISSIPPI POWER\PLANT DANIEL\CAD\FINAL CONDITIONS-II EXIST COND - Last Saved By: CTurlington on 5/20/19



LEGEND

- 10 EXISTING MAJOR CONTOUR ELEVATION (2-FT INTERVAL)
- EXISTING WATER EDGE



0 150  
SCALE IN FEET

NOTES:

- EXISTING TOPOGRAPHIC CONTOURS PROVIDED BY SOUTHERN COMPANY GENERATION ENGINEERING AND CONSTRUCTION SERVICES FOR MISSISSIPPI POWER COMPANY ON FEBRUARY 12, 2019. THE EXISTING TOPOGRAPHIC SURFACE IS A COMPOSITE OF SEVERAL SMALLER SURFACES THAT WERE PROVIDED, NAMED: AP-PC, NE POND SOUNDING, NW POND, SOUTH POND SOUNDING, AND SW POND.
- LOCATION OF EXISTING PUMP HOUSE IS IMAGERY PROVIDED BY SOUTHERN COMPANY SERVICES, TITLED: "PAGES FROM HISTORY OF CONSTRUCTION.PDF, TITLED "MISSISSIPPI POWER COMPANY PLANT DANIEL POND B - CLAY LINER GRADING PLAN & DETAILS", DATED 3/10/93", OBTAINED FROM THE HISTORY OF CONSTRUCTION REPORT, POSTED BY MPC ON 10/17/2016.

PLANT DANIEL  
ASH POND B  
EXISTING CONDITIONS



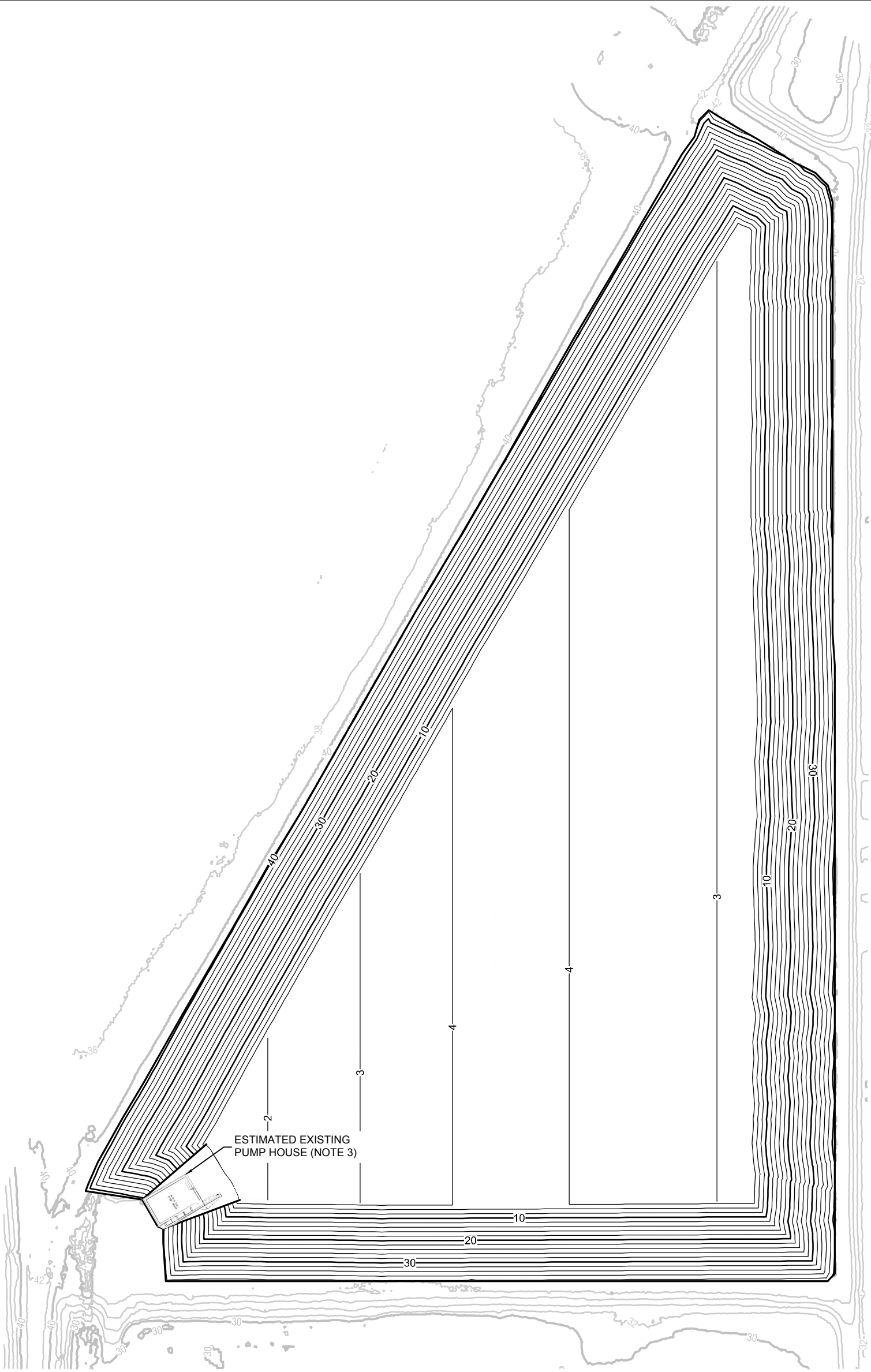
FIGURE

1

PROJECT NO: GW6867

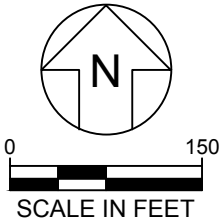
MAY 2019

N:\MISSISSIPPI POWER\PLANT DANIEL\CAD\FINAL CONDITIONS-II BOTM CCR - Last Saved By: CTurlington on 5/20/19



LEGEND

- 30 — EXISTING MAJOR CONTOUR ELEVATION (2-FT INTERVAL)
- 10 — ESTIMATED CCR BOTTOM MAJOR CONTOUR ELEVATION (2-FT INTERVAL)



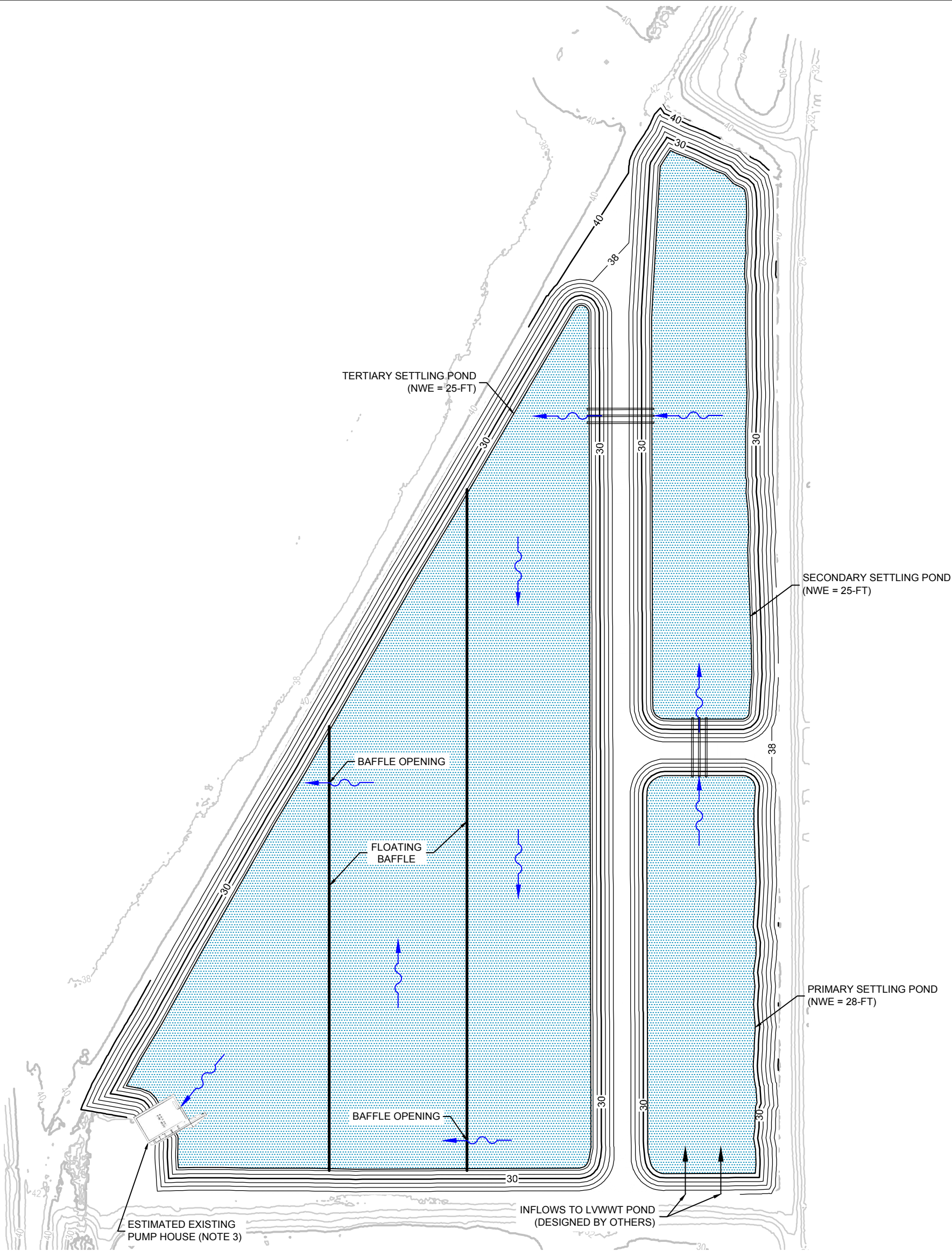
NOTES:

1. BOTTOM OF CCR (EXISTING LINER) GRADES ARE DEVELOPED FROM CONSTRUCTION DESIGN DRAWING, PROVIDED BY: SOUTHERN COMPANY SERVICES, TITLED: POND B - CLAY LINER GRADING PLAN & DETAILS, DATED: 3/12/93.
2. THE APPROXIMATE TOP OF DIKE BREAKLINE WAS DEVELOPED FROM EXISTING TOPOGRAPHIC CONTOURS PROVIDED BY SOUTHERN COMPANY GENERATION ENGINEERING AND CONSTRUCTION SERVICES FOR MISSISSIPPI POWER COMPANY ON FEBRUARY 12, 2019. THE EXISTING TOPOGRAPHIC SURFACE IS A COMPOSITE OF SEVERAL SMALLER SURFACES THAT WERE PROVIDED, NAMED: AP-PC, NE POND SOUNDING, NW POND, SOUTH POND SOUNDING, AND SW POND.
3. LOCATION OF EXISTING PUMP HOUSE IS IMAGERY PROVIDED BY SOUTHERN COMPANY SERVICES, TITLED: "PAGES FROM HISTORY OF CONSTRUCTION.PDF, TITLED "MISSISSIPPI POWER COMPANY PLANT DANIEL POND B - CLAY LINER GRADING PLAN & DETAILS", DATED 3/10/93", OBTAINED FROM THE HISTORY OF CONSTRUCTION REPORT, POSTED BY MPC ON 10/17/2016.

PLANT DANIEL ASH POND B ESTIMATED BOTTOM OF EXISTING CCR GRADES	
PROJECT NO: GW6867	MAY 2019
FIGURE 2	



N:\MISSISSIPPI POWER\PLANT DANIEL\CAD\FINAL CONDITIONS-II INTRO - Last Saved By: CTurlington on 5/20/19

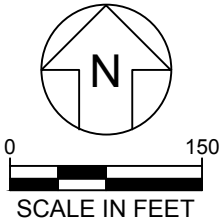


LEGEND

- 30 — EXISTING MAJOR CONTOUR ELEVATION (2-FT INTERVAL)
- 30 — PROPOSED MAJOR CONTOUR ELEVATION (2-FT INTERVAL)
- — FLOATING BAFFLE
- INFLOWS TO LVWWT POND
- INTERIOR SETTLING POND CONVEYANCE
- PROPOSED SETTLING POND CONVEYANCE PIPING
- POND NORMAL WATER ELEVATION (NWE)

NOTES:

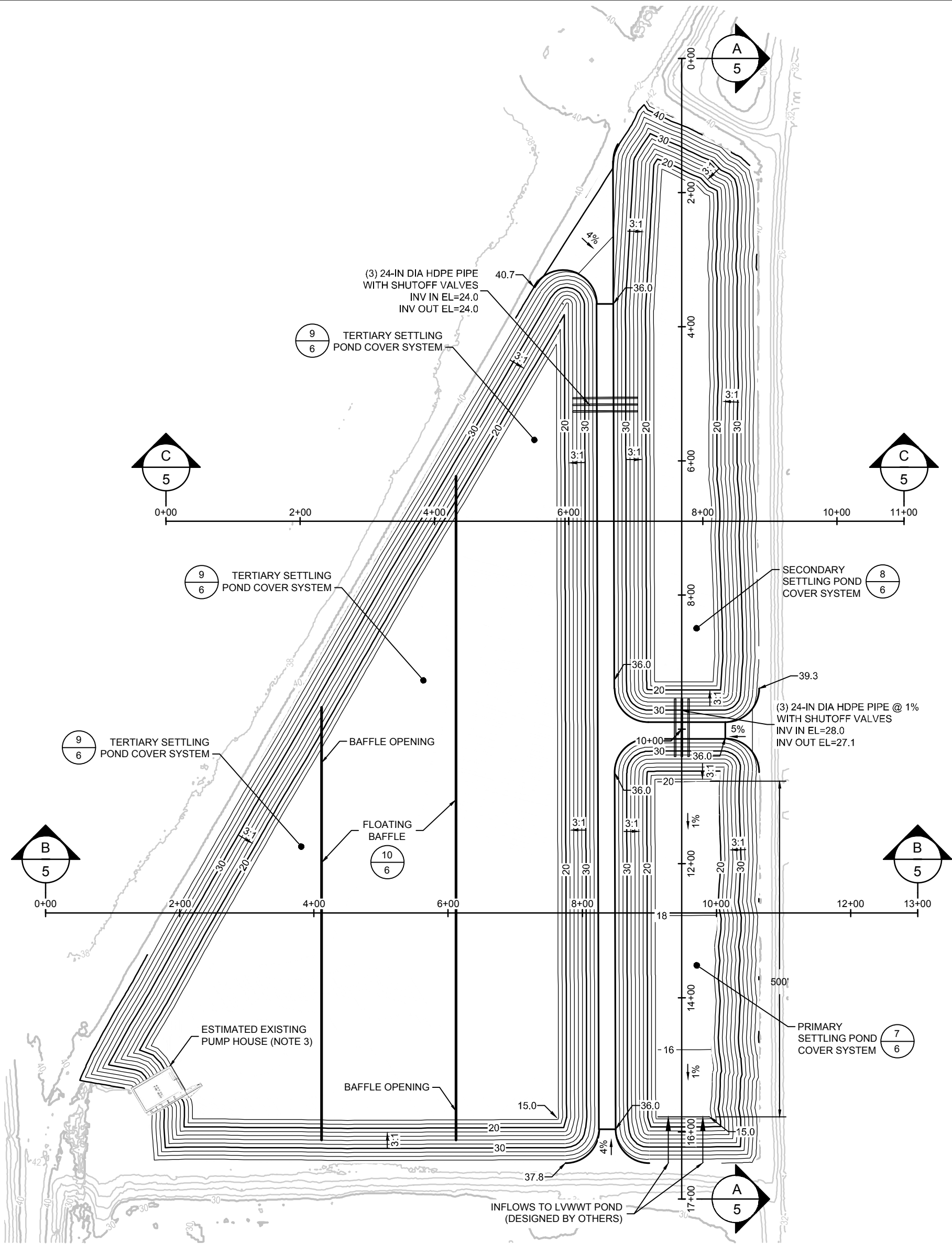
1. BOTTOM OF CCR (EXISTING LINER) GRADES ARE DEVELOPED FROM CONSTRUCTION DESIGN DRAWING, PROVIDED BY: SOUTHERN COMPANY SERVICES, TITLED: POND B - CLAY LINER GRADING PLAN & DETAILS, DATED: 3/12/93.
2. THE APPROXIMATE TOP OF DIKE BREAKLINE WAS DEVELOPED FROM EXISTING TOPOGRAPHIC CONTOURS PROVIDED BY SOUTHERN COMPANY GENERATION ENGINEERING AND CONSTRUCTION SERVICES FOR MISSISSIPPI POWER COMPANY ON FEBRUARY 12, 2019. THE EXISTING TOPOGRAPHIC SURFACE IS A COMPOSITE OF SEVERAL SMALLER SURFACES THAT WERE PROVIDED, NAMED: AP-PC, NE POND SOUNDING, NW POND, SOUTH POND SOUNDING, AND SW POND.
3. LOCATION OF EXISTING PUMP HOUSE IS IMAGERY PROVIDED BY SOUTHERN COMPANY SERVICES, TITLED: "PAGES FROM HISTORY OF CONSTRUCTION.PDF, TITLED "MISSISSIPPI POWER COMPANY PLANT DANIEL POND B - CLAY LINER GRADING PLAN & DETAILS", DATED 3/10/93", OBTAINED FROM THE HISTORY OF CONSTRUCTION REPORT, POSTED BY MPC ON 10/17/2016.



PLANT DANIEL ASH POND B REPURPOSED AS LVWWT POND		
Geosyntec consultants		FIGURE  3
PROJECT NO: GW6867	MAY 2019	



N:\MISSISSIPPI POWER\PLANT DANIEL\CAD\FINAL CONDITIONS-II - Last Saved By: CTurlington on 5/20/19



LEGEND

- EXISTING MAJOR CONTOUR ELEVATION (2-FT INTERVAL)
- PROPOSED MAJOR CONTOUR ELEVATION (2-FT INTERVAL)
- FLOATING BAFFLE
- INFLOWS TO LVWWT POND
- PROPOSED SETTLING POND CONVEYANCE PIPING

NOTES:

- BOTTOM OF CCR (EXISTING LINER) GRADES ARE DEVELOPED FROM CONSTRUCTION DESIGN DRAWING, PROVIDED BY: SOUTHERN COMPANY SERVICES, TITLED: POND B - CLAY LINER GRADING PLAN & DETAILS, DATED: 3/12/93.
- THE APPROXIMATE TOP OF DIKE BREAKLINE WAS DEVELOPED FROM EXISTING TOPOGRAPHIC CONTOURS PROVIDED BY SOUTHERN COMPANY GENERATION ENGINEERING AND CONSTRUCTION SERVICES FOR MISSISSIPPI POWER COMPANY ON FEBRUARY 12, 2019. THE EXISTING TOPOGRAPHIC SURFACE IS A COMPOSITE OF SEVERAL SMALLER SURFACES THAT WERE PROVIDED, NAMED: AP-PC, NE POND SOUNDING, NW POND, SOUTH POND SOUNDING, AND SW POND.
- LOCATION OF EXISTING PUMP HOUSE IS IMAGERY PROVIDED BY SOUTHERN COMPANY SERVICES, TITLED: "PAGES FROM HISTORY OF CONSTRUCTION.PDF, TITLED "MISSISSIPPI POWER COMPANY PLANT DANIEL POND B - CLAY LINER GRADING PLAN & DETAILS", DATED 3/10/93", OBTAINED FROM THE HISTORY OF CONSTRUCTION REPORT, POSTED BY MPC ON 10/17/2016.

PLANT DANIEL  
ASH POND B  
REPURPOSED AS LVWWT POND  
LINER GRADES

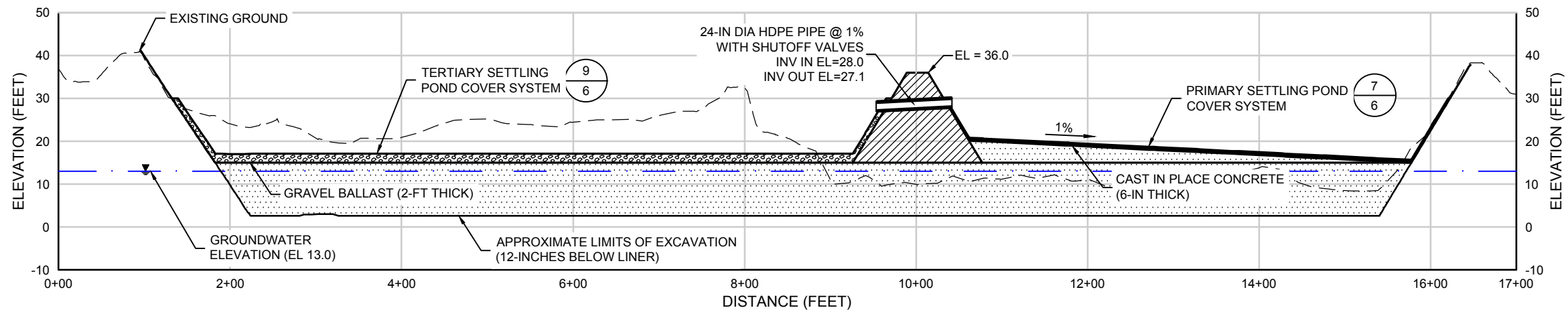


FIGURE

4

PROJECT NO: GW6867

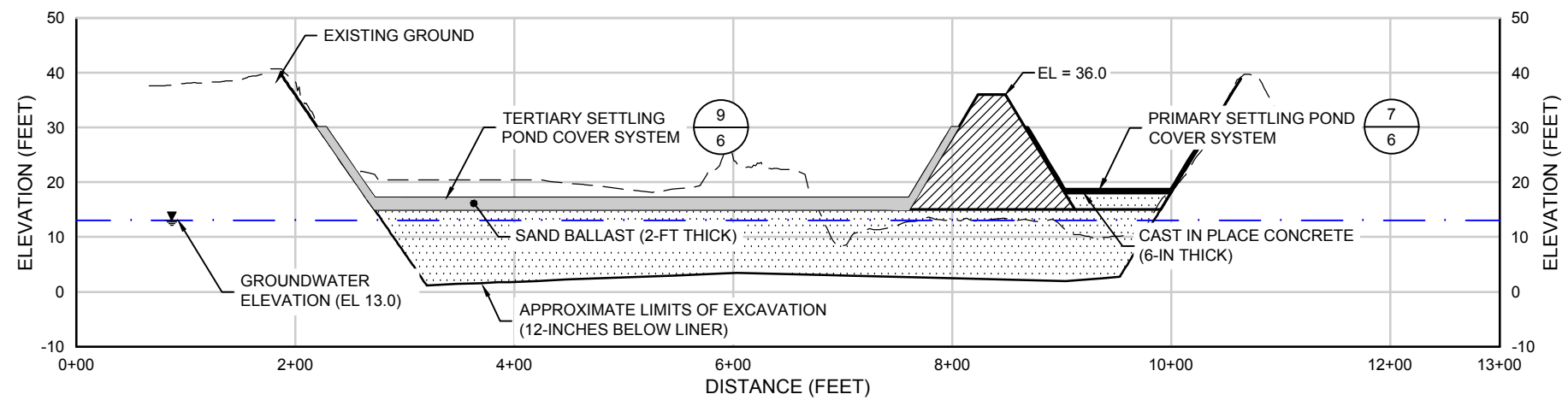
MAY 2019



**A**  
4 PROFILE SECTION A-A

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HORIZONTAL SCALE IN FEET

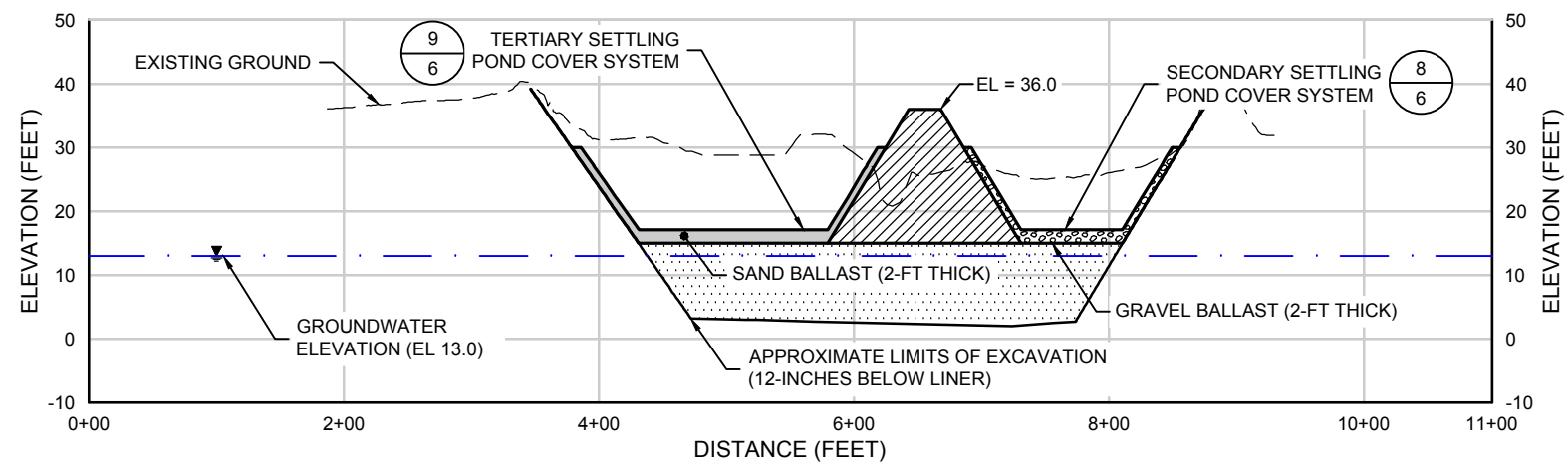
0 30  
VERTICAL SCALE IN FEET



**B**  
4 PROFILE SECTION B-B

0 150  
HORIZONTAL SCALE IN FEET

0 30  
VERTICAL SCALE IN FEET



**C**  
4 PROFILE SECTION C-C

0 150  
HORIZONTAL SCALE IN FEET

0 30  
VERTICAL SCALE IN FEET

**LEGEND**

- EXISTING GRADE
- EXCAVATION GRADE
- GROUNDWATER ELEVATION (13.0-FT)
- PROPOSED GRADE
- SETTLING POND CONVEYANCE PIPING
- CAST IN PLACE CONCRETE
- GENERAL FILL
- GRAVEL BALLAST
- SAND BALLAST
- SOIL BERM

PLANT DANIEL  
ASH POND B  
REPURPOSED AS LVWWT POND  
SECTIONS

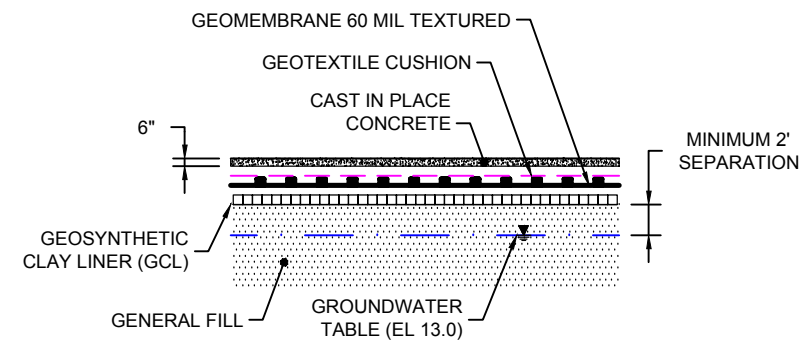
Geosyntec  
consultants

FIGURE

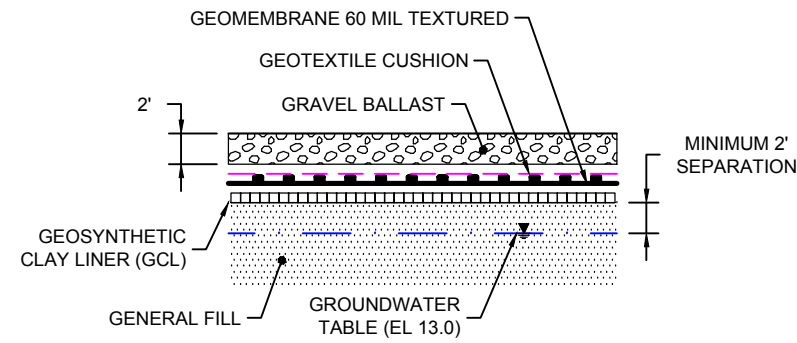
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PROJECT NO: GW6867

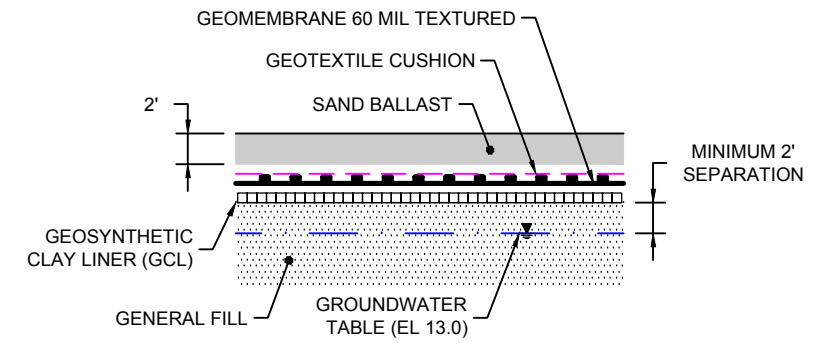
MAY 2019



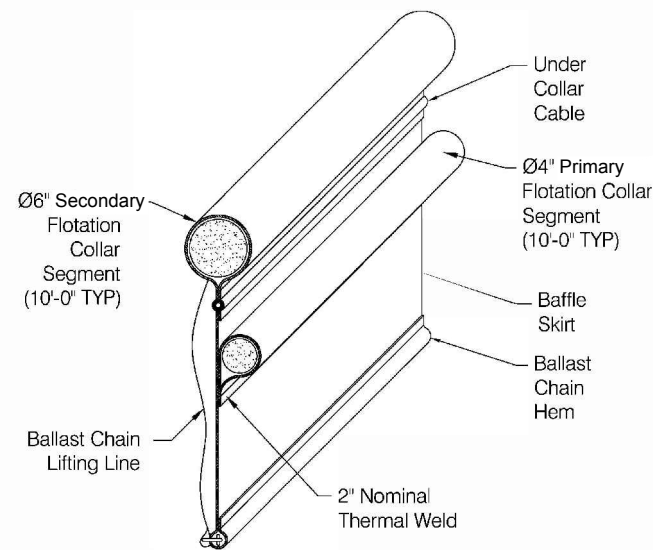
**7**  
**4** **DETAIL**  
**PRIMARY SETTLING POND**  
**COVER SYSTEM**  
SCALE: NONE



**8**  
**4** **DETAIL**  
**SECONDARY SETTLING**  
**POND COVER SYSTEM**  
SCALE: NONE



**9**  
**4** **DETAIL**  
**TERTIARY SETTLING POND**  
**COVER SYSTEM**  
SCALE: NONE



ISOMETRIC

**10**  
**4** **DETAIL**  
**FLOATING BAFFLE DETAIL**  
SCALE: NONE

PLANT DANIEL  
ASH POND B  
REPURPOSED AS LVWWT POND  
DETAILS

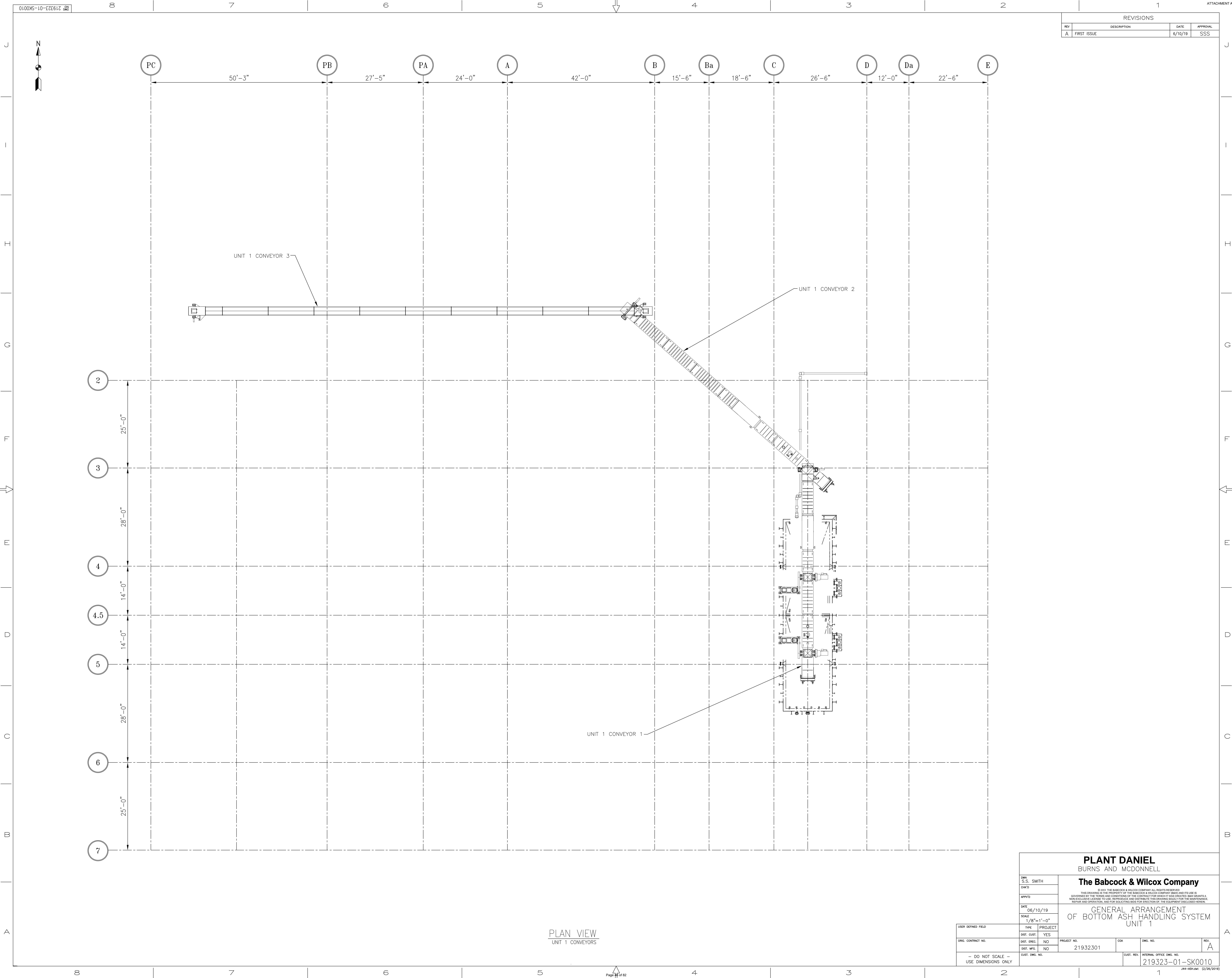
Geosyntec  
consultants

PROJECT NO: GW6867

MAY 2019

FIGURE

6



REVISIONS			
REV	DESCRIPTION	DATE	APPROVAL
A	FIRST ISSUE	6/10/19	SSS

DWG:  
S.S. SMITH

CHK'D:

APPR'D:

DATE:  
06/10/19

SCALE:  
1/8"=1'-0"

TYPE: PROJECT

DIST. CUST: YES

DIST. EXEC: NO

DIST. MFG: NO

— DO NOT SCALE —  
USE DIMENSIONS ONLY

PLANT DANIEL  
BURNS AND MCDONNELL

The Babcock & Wilcox Company

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GENERAL ARRANGEMENT  
OF BOTTOM ASH HANDLING SYSTEM  
UNIT 1

PROJECT NO:  
21932301

COA:

DWG. NO.:

REV:  
A

CUST. REV:

INTERNAL OFFICE DWG. NO.  
219323-01-SK0010

0100XS-10-EZ261Z

8

7

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1

ATTACHMENT A

J

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F

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D

C

B

A

8

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6

5

4

3

2

1

0100XS-10-EZ261Z

8

7

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3

2

1

ATTACHMENT A

J

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B

A

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7

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3

2

1

0100XS-10-EZ261Z

8

7

6

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4

3

2

1

ATTACHMENT A

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D

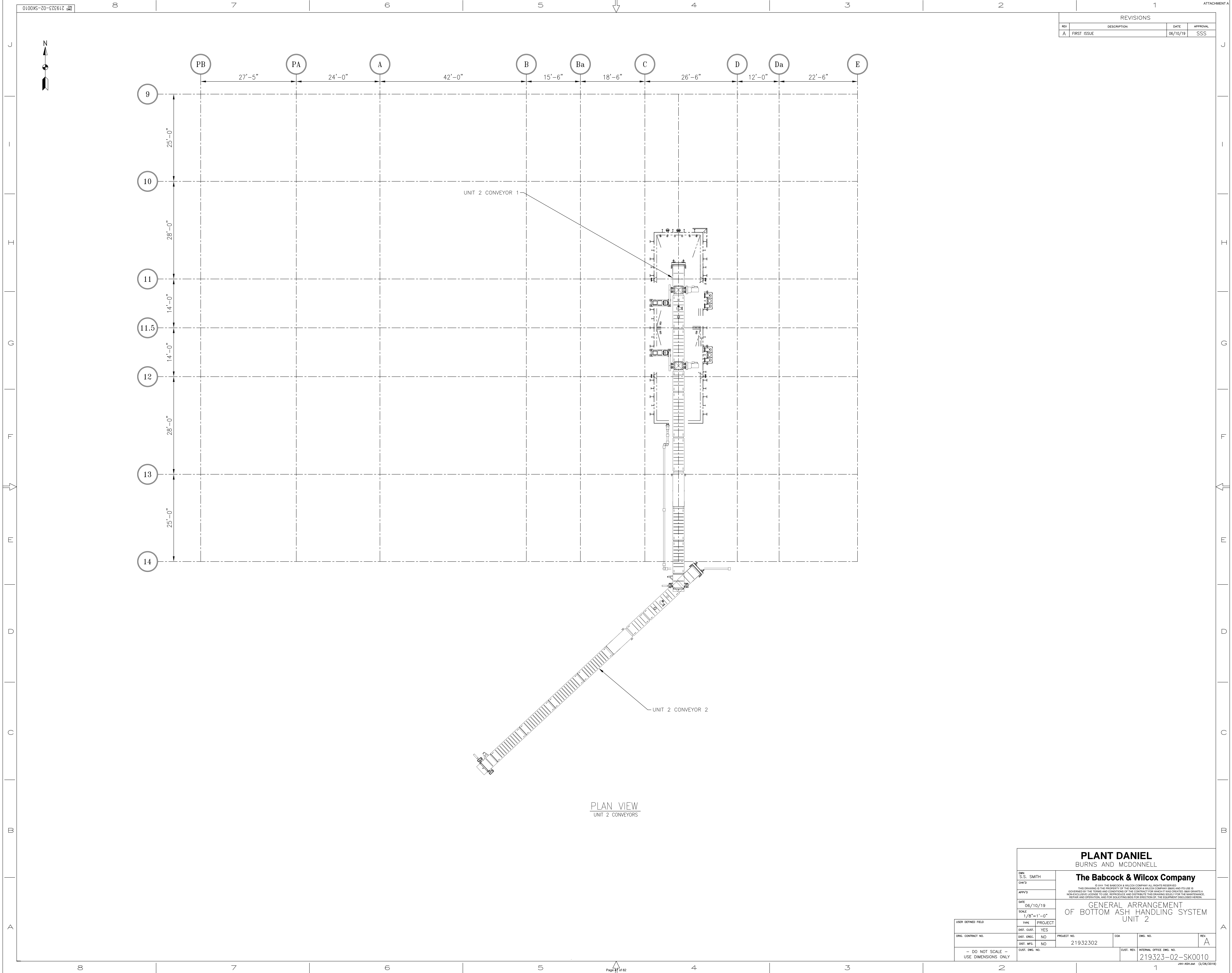
C

B

A

\*\*MSPSC Electronic Copy \*\* 2019-UA-116 Filed on 09/23/2019 \*\*





REVISIONS			
REV	DESCRIPTION	DATE	APPROVAL
A	FIRST ISSUE	06/10/19	SSS

PLAN VIEW  
UNIT 2 CONVEYORS

DWG:  
S.S. SMITH

CHK'D:

APP'VD:

DATE  
06/10/19

SCALE  
1/8"=1'-0"

TYPE

PROJECT

DIST. DEC.

NO

DIST. MFG.

NO

PROJECT NO.

21932302

COA

DWG. NO.

REV.

A

PLANT DANIEL

BURNS AND MCDONNELL

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GENERAL ARRANGEMENT  
OF BOTTOM ASH HANDLING SYSTEM  
UNIT 2

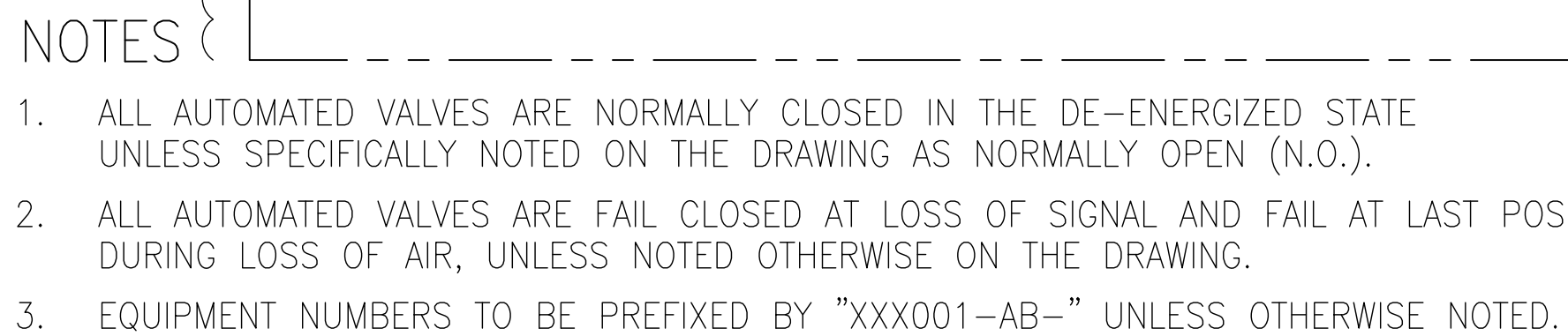
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USE DIMENSIONS ONLY

CUST. REV.

INTERNAL OFFICE DWG. NO.

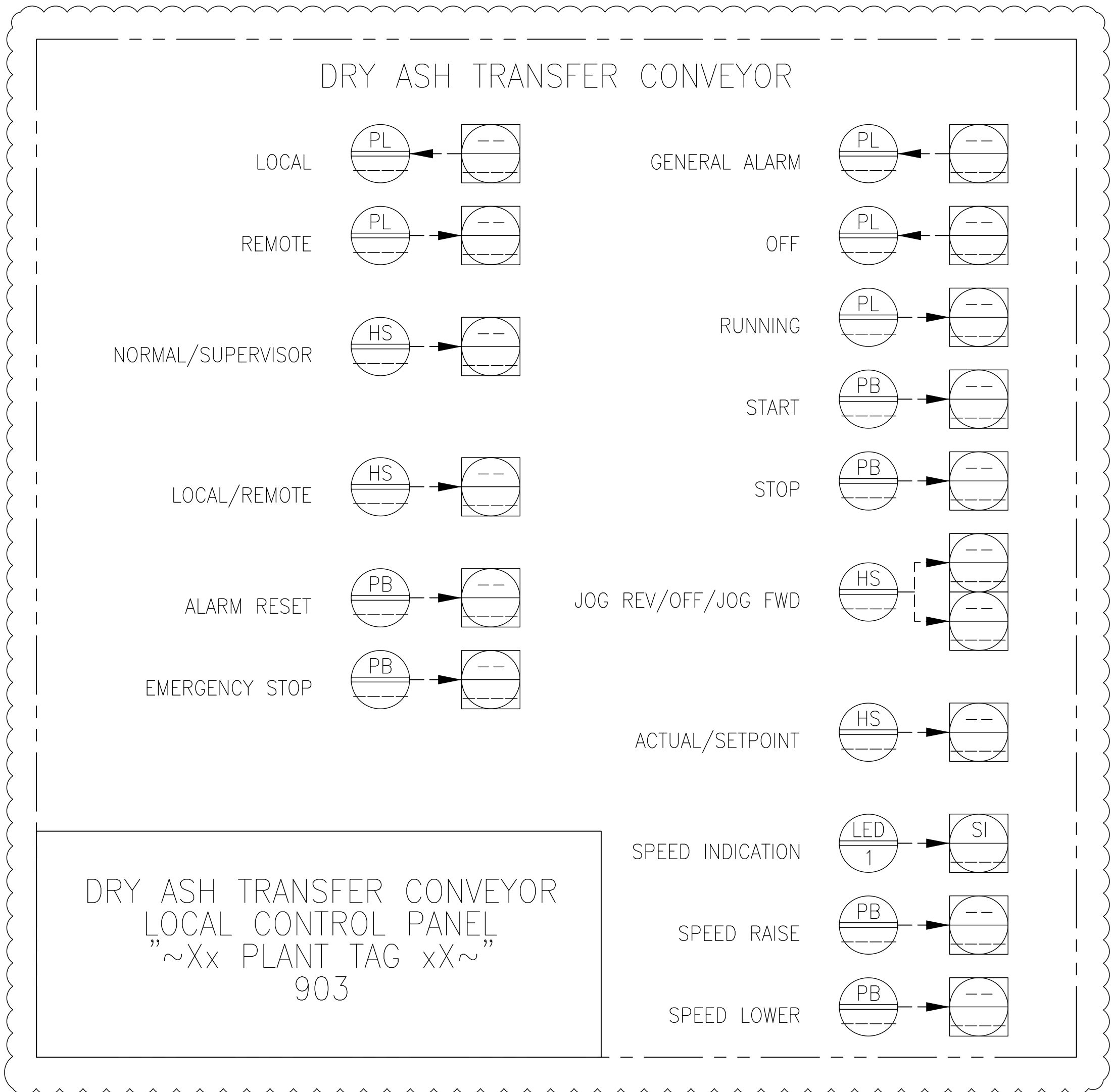
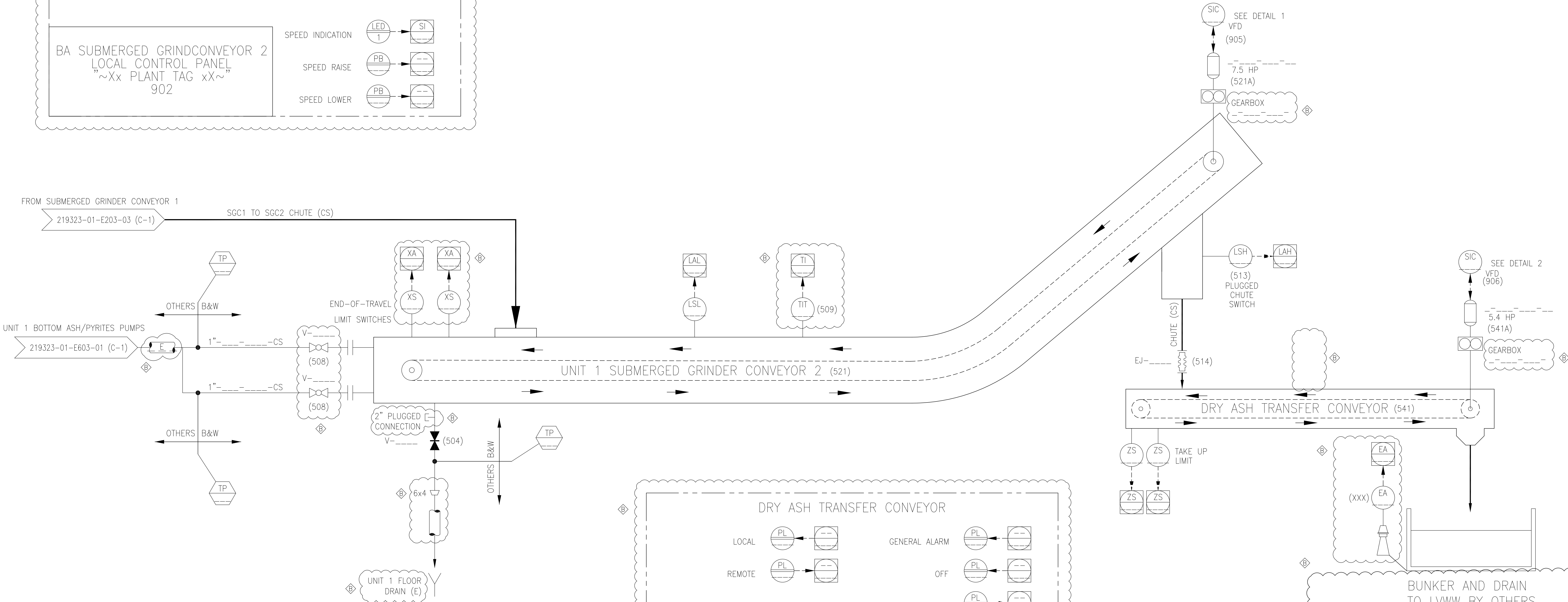
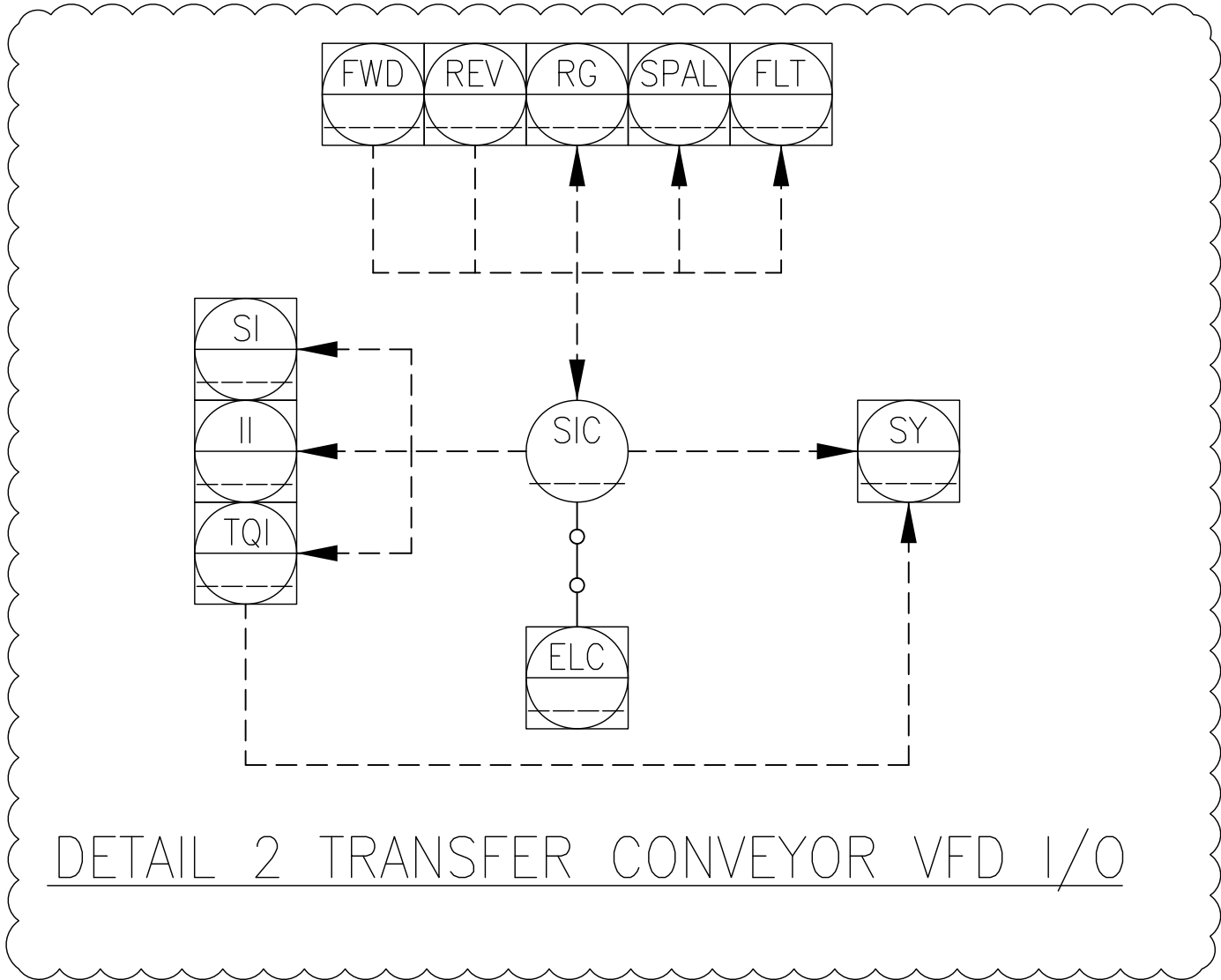
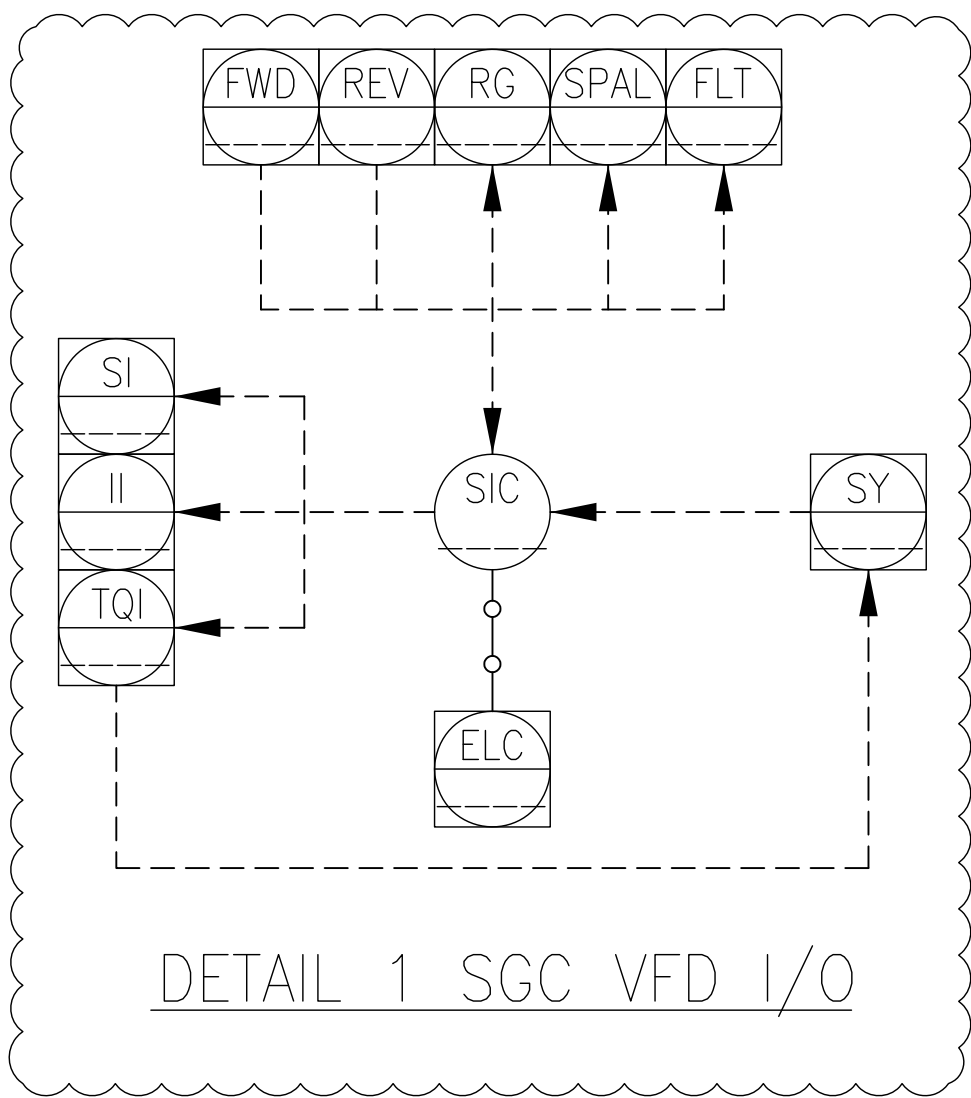
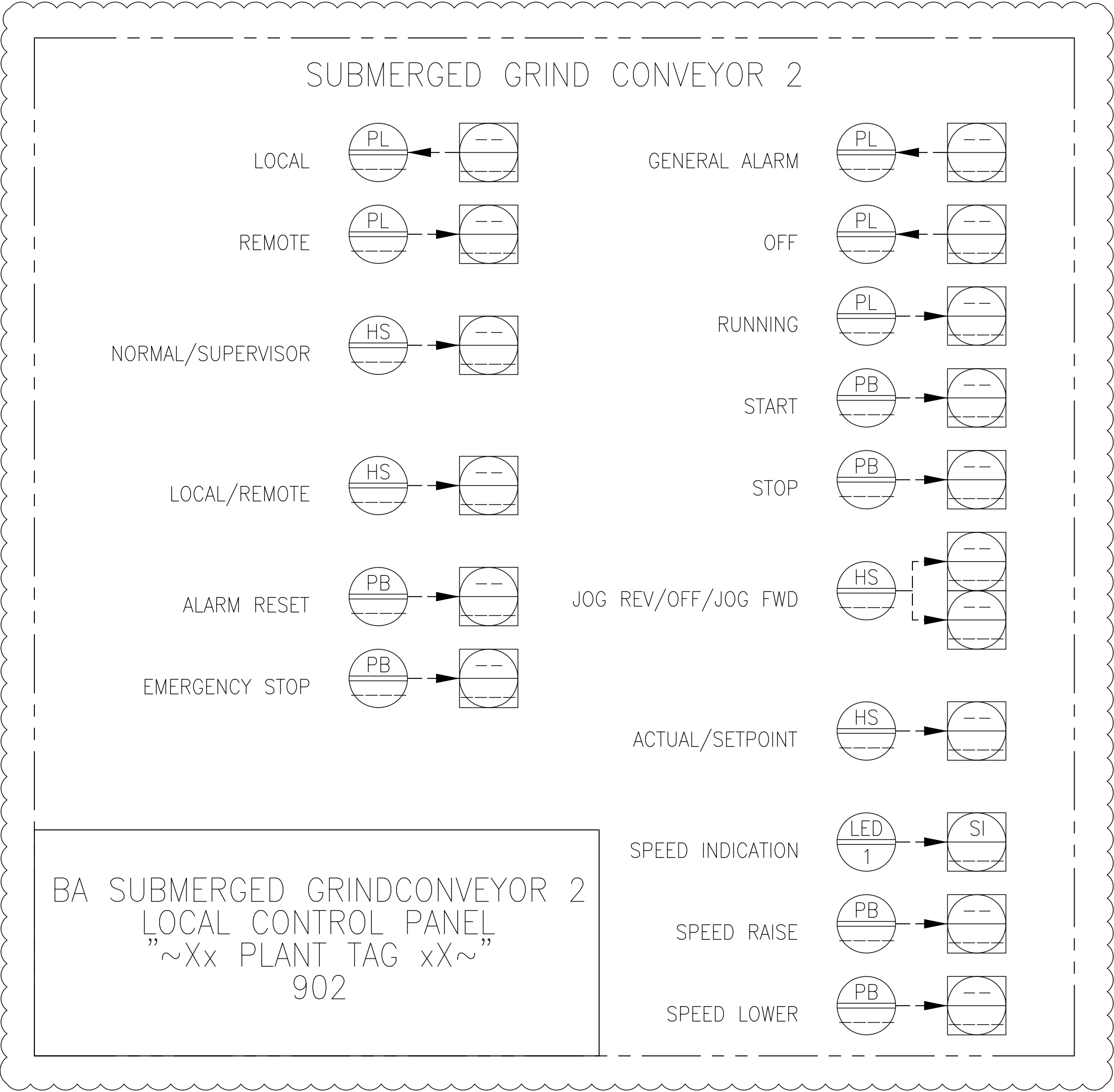
219323-02-SK0010

<h1 style="text-align: center;">PLANT DANIEL</h1> <h2 style="text-align: center;">BURNS AND MCDONNELL</h2>			
<h3 style="text-align: center;">The Babcock &amp; Wilcox Company</h3> <p style="text-align: center;">© 2019 THE BABCOCK &amp; WILCOX COMPANY. ALL RIGHTS RESERVED. THIS DRAWING IS THE PROPERTY OF THE BABCOCK &amp; WILCOX COMPANY (B&amp;W) AND ITS USER. REPRODUCTION OF THE TERMS AND CONDITIONS OF THE CONTRACT FOR WHICH IT WAS CREATED, MAY INFRINGE A PATENT OR INTELLECTUAL PROPERTY RIGHTS. B&amp;W AND ITS USER SHALL BE RESPONSIBLE FOR THE MAINTENANCE, CONTROL AND OPERATION, AND FOR ALL SAFETY RISKS FOR THE USER OF THE EQUIPMENT DESCRIBED HEREIN.</p>			
OWN: F.X. PIANO	DATE: 04/12/19		
CNO: S.S. SMITH	SCALE: NONE		
APP'D: J.A. BABANN	TYPE: PROJECT		
DIST. CUST: YES	PROJECT NO.	ECOA:	DWG. NO.
DIST. ENG. NO	21932301	REV.	0
DIST. MFG. NO	CUST. REV.	INTERNAL OFFICE DWG. NO.	
CUST. DWG. NO.	219323-01-E203-03		





REVISIONS			
REV	DESCRIPTION	DATE	APPROVAL
A	FIRST ISSUE	04/12/19	SSS
O	FINAL - UPDATED PER CUSTOMER COMMENTS	05/17/19	SSS

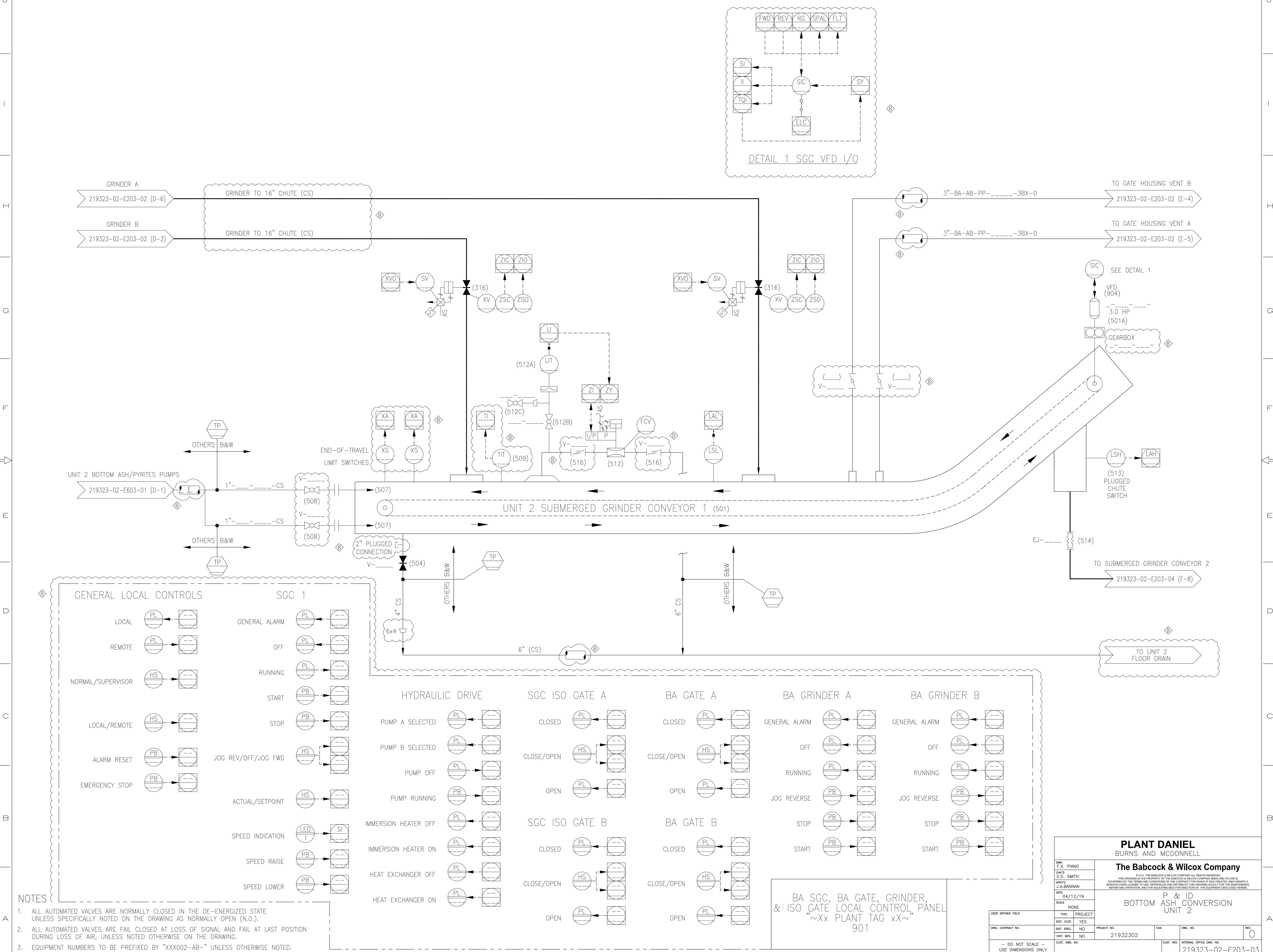


- NOTES
- ALL AUTOMATED VALVES ARE NORMALLY CLOSED IN THE DE-ENERGIZED STATE UNLESS SPECIFICALLY NOTED ON THE DRAWING AS NORMALLY OPEN (N.O.).
  - ALL AUTOMATED VALVES ARE FAIL CLOSED AT LOSS OF SIGNAL AND FAIL AT LAST POSITION DURING LOSS OF AIR, UNLESS NOTED OTHERWISE ON THE DRAWING.
  - EQUIPMENT NUMBERS TO BE PREFIXED BY "XXX001-AB-" UNLESS OTHERWISE NOTED.

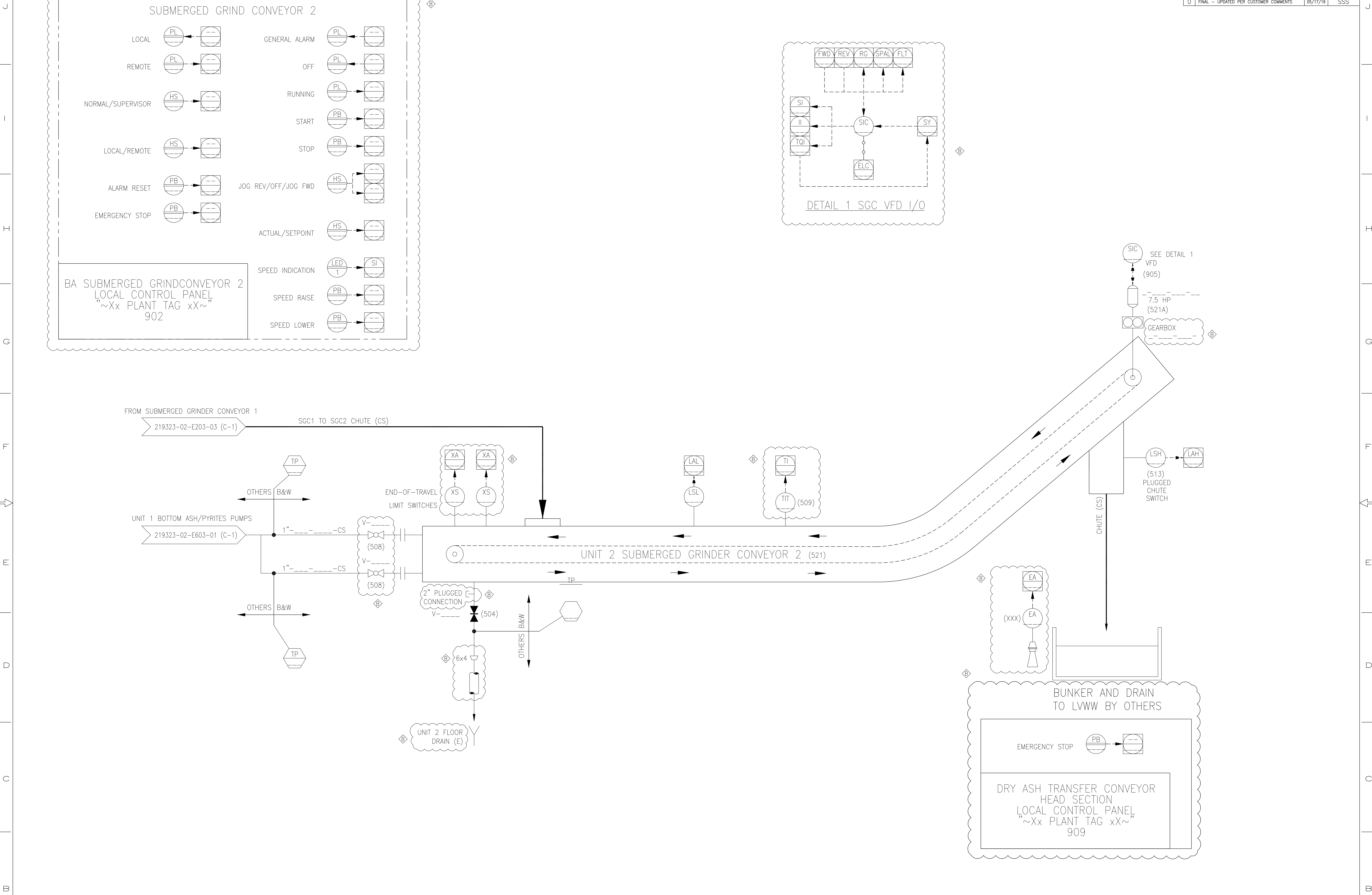
PLANT DANIEL BURNS AND MCDONNELL									
OWN F.X. PIANO		<div>The Babcock &amp; Wilcox Company</div> <div>© 2019 THE BABCOCK &amp; WILCOX COMPANY ALL RIGHTS RESERVED</div> <div>THIS DRAWING IS THE PROPERTY OF THE BABCOCK &amp; WILCOX COMPANY (B&amp;W) AND ITS USE IS GOVERNED BY THE TERMS AND CONDITIONS OF THE CONTRACT FOR PURCHASER HAS CREATED. ANY DOWNTA NEMENTS ARE HEREBY DENIED TO USE, REPRODUCE, AND DISTRIBUTE THIS DRAWING SOLELY FOR THE MAINTENANCE, REPAIR, AND OPERATION OF THE FACILITY. FOR SOLE USE OF THE FACILITY. THE EQUIPMENT LOGS/LOGGED HEREIN.</div> <div>P &amp; ID BOTTOM ASH CONVERSION UNIT 1</div>							
DWG S.S. SMITH									
APPROV J.A. BANNAN									
DATE 04/12/19									
SCALE NONE									
USER DEFINED FIELD		TYPE		PROJECT					
ORIG. CONTRACT NO.		DIST. CUST.		YES		PROJECT NO.		21932301	
		DIST. EXEC.		NO		COA			
		DIST. MFG.		NO		DWG. NO.			
DO NOT SCALE - USE DIMENSIONS ONLY		CUST. DWG. NO.				CUST. REV.		INTERNAL OFFICE DWG. NO. 219323-01-E203-04	



REVISIONS			
REV	DESCRIPTION	DATE	APPROVAL
A	FIRST ISSUE	04/12/19	SSS
0	FINAL - UPDATED PER CUSTOMER COMMENTS	05/17/19	SSS







REVISIONS			
REV	DESCRIPTION	DATE	APPROVAL
A	FIRST ISSUE	04/12/19	SSS
O	FINAL - UPDATED PER CUSTOMER COMMENTS	05/17/19	SSS

- NOTES
- ALL AUTOMATED VALVES ARE NORMALLY CLOSED IN THE DE-ENERGIZED STATE UNLESS SPECIFICALLY NOTED ON THE DRAWING AS NORMALLY OPEN (N.O.).
  - ALL AUTOMATED VALVES ARE FAIL CLOSED AT LOSS OF SIGNAL AND FAIL AT LAST POSITION DURING LOSS OF AIR, UNLESS NOTED OTHERWISE ON THE DRAWING.
  - EQUIPMENT NUMBERS TO BE PREFIXED BY "XXX002-AB-" UNLESS OTHERWISE NOTED.

PLANT DANIEL BURNS AND MCDONNELL											
OWN F.X. PIANO		The Babcock & Wilcox Company									
CHK'D S.S. SMITH											
APPROV J.A. BANNAN		THIS DRAWING IS THE PROPERTY OF THE BABCOCK & WILCOX COMPANY. IT IS TO BE USED ONLY FOR THE PROJECT AND FOR THE EQUIPMENT SPECIFICALLY IDENTIFIED HEREIN. IT IS TO BE KEPT IN THE OFFICE OF THE PROJECT ENGINEER. IT IS TO BE RETURNED TO THE COMPANY UPON COMPLETION OF THE PROJECT. IT IS TO BE DESTROYED UPON THE EXPIRATION OF THE PROJECT. IT IS TO BE KEPT IN THE OFFICE OF THE PROJECT ENGINEER. IT IS TO BE RETURNED TO THE COMPANY UPON COMPLETION OF THE PROJECT. IT IS TO BE DESTROYED UPON THE EXPIRATION OF THE PROJECT.									
DATE 04/12/19											
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USER DEFINED FIELD											
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		DIST. MFR.		21932302						0	
		CUST. DWG. NO.				CUST. REV.		INTERNAL OFFICE DWG. NO.		219323-02-E203-04	
DO NOT SCALE - USE DIMENSIONS ONLY		J44-ASH-04 02/26/2019									



## Memo

Date: Wednesday, May 22, 2019

Project: Plant Daniel Low Volume Wastewater (LVWW) Redirection Project

To: Chad McKnight, Southern Company Services

From: Brian Powers, HDR

**Subject: Summary of Cost Estimate Items**

This memo presents a summary of the items included in HDR's draft cost estimate for the Plant Daniel Low Volume Wastewater (LVWW) Redirection Project. The budget for these items is attached to this memo and represents a Level 5 cost estimate (+50%, -30%), based on guidance from the Association for the Advancement of Cost Engineering (AACE). Following review by Southern Company Services (Southern), the cost estimate will be finalized; therefore, HDR requests that Southern provide any changes by May 29, 2019 to ensure comments can be resolved and incorporated prior to issuance of the final cost estimate on May 31, 2019. In addition to the attached draft cost estimate, HDR has included preliminary piping and instrumentation diagram drawings, a preliminary layout drawing, and a preliminary flow diagram with this memo for Southern's reference.

## Process / Mechanical Items

- Treatment Tanks
  - Wastewater Flocculation Tank with Mixer
  - Coal Pile Runoff (CPR) Flocculation Tank with Mixer
  - Outage Wash Wastewater pH Adjustment Tank and Mixer
- Chemical Feed Systems
  - Two (2) Polymer Chemical Feed Skidded Systems
  - Two (2) Caustic Chemical Feed Skidded Systems
  - Ferric Chloride Chemical Feed Skidded System
  - Static Mixers for Ferric Chloride Injection
- Chemical Storage
  - Polymer Tote – Included as part of Polymer Feed System
  - Ferric Chloride Tank
  - Caustic Tank(s)
- Safety Showers with Instantaneous Hot Water Heaters
- Process Pumps
  - Outage Wash Wastewater Transfer Pumps from pH Mix Tank to Flocculation Tank
- Piping (includes valves and fittings)
  - Chemical Feed Piping (Polymer, Ferric, Caustic)

- Piping from CPR Pond to Flocculation Tank and from Flocculation Tank to Industrial Wastewater Pond (IWWP)
- Piping from WWB to Wastewater Flocculation Tank and from Flocculation Tank to IWWP
- Re-routing of NAMU Discharge
- Outage Wash Wastewater Piping to pH Adjustment Tank and from the pH Adjustment Tank to the Wastewater Flocculation Tank
- Potable Water Supply Piping to Safety Showers – assumed 2,500 feet
- Instrument Air Supply to Wastewater Treatment – assumed 1,500 feet
- Service Water Supply Piping to Wastewater Treatment – assumed 2,500 feet

## Civil Items

- Erosion & Sedimentation Control Features
- Chemical Truck Unloading Roads
- Chemical Unloading Station
- Earth Removal for Roads and Foundations

## Structural Items

- Pipe Supports (Large Bore and Small Bore)
- Tanks, Platforms, Access Ladders, etc.

## Architectural Items

- Shed Roof Open Walled Enclosures with Containment Walls and Foundations for Two (2) Caustic Feed Chemical Feed Skids, Bulk Caustic Tanks, Ferric Chloride Chemical Dosing Skid, and Bulk Ferric Chloride Tank

## Electrical and I&C Items – Input from Southern Team Requested

- Power Feed Wiring – assumed 2,500 feet
- Power Feed Conduit – assumed 2,500 feet
- Power Feed Terminations – assumed twelve (12)
- DCS Feed Wiring – assumed 2,500 feet
- DCS Feed Terminations – assumed four (4)
- Electrical Equipment Modification – assumed \$25,000 of modifications
- Heat Tracing and Insulation for Some Chemical Feed Lines
- Insulation for Small Bore Pipe

## General Conditions Cost Estimate

- Training / Safety
- Mobilization

- Field Office Expenses
- Temporary Facilities
- Temporary Utilities
- Support Craft and Site Services
- Construction Testing
- Performance Testing
- Permits
- Construction Scaffolding and Equipment Rental
- Hydrostatic / Static Head Testing
- Freight
- Small Tools
- Consumables

## Engineering and Project Management Costs

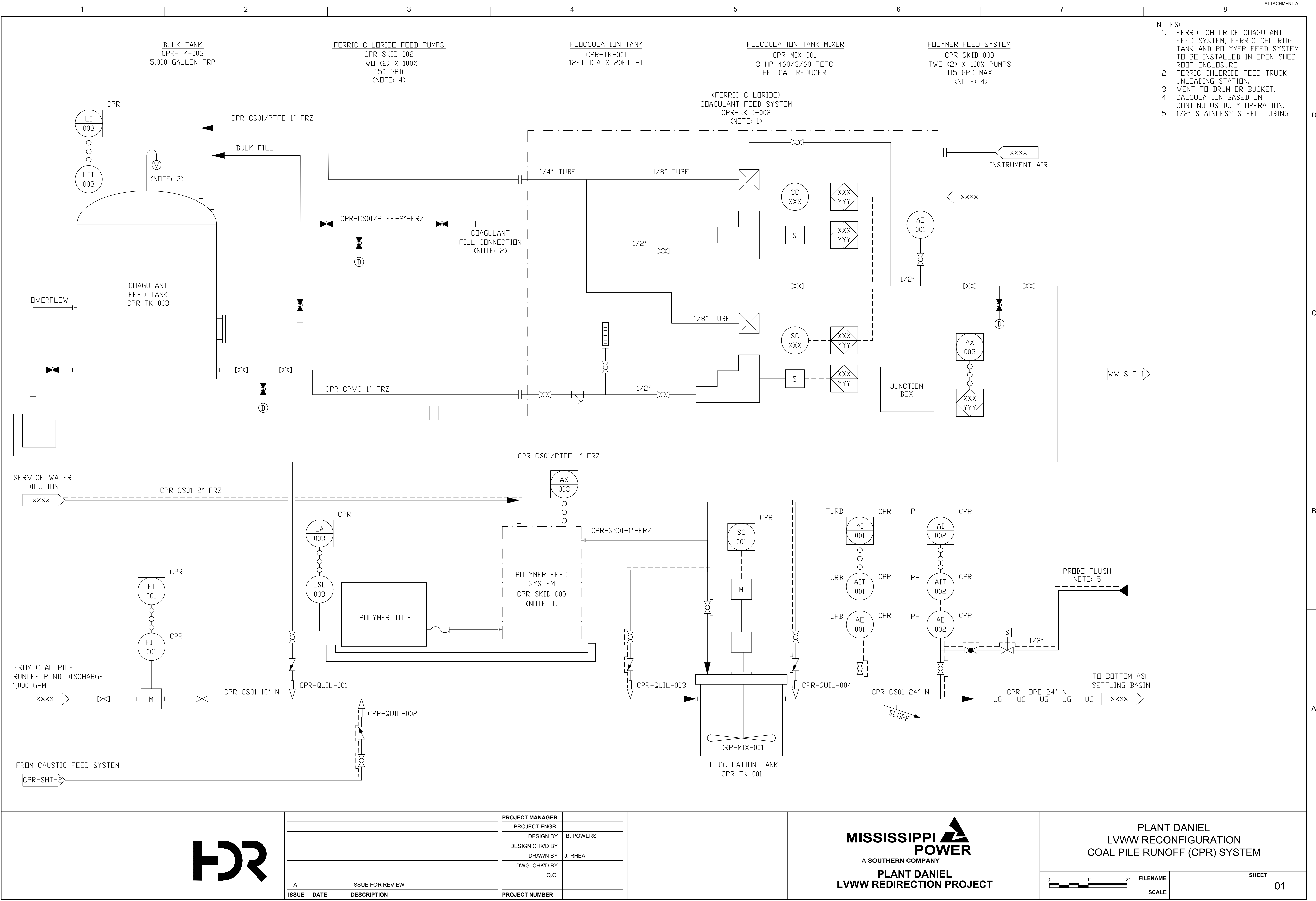
- Costs for engineering and project management of the scope identified

## Excluded Costs

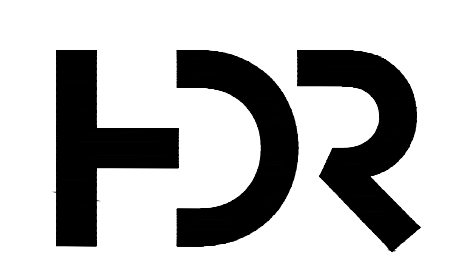
- Re-routing of outage wash wastewater to the Wastewater Basin (WWB)
- Re-routing of coal fine wash wastewater to the WWB
- Re-routing of the outage wash water supply from the IWWP
- Upgrades to the IWWP discharge pumps and structure
- Temporary treatment system
- Repurposing of the Bottom Ash Pond
- Installation of baffles, etc. in the IWWP

## Attachments

- Cost Estimate Spreadsheet – Coded
- Preliminary P&ID Drawings
- Preliminary Layout Drawing
- Preliminary Flow Diagram



- NOTES:
1. FERRIC CHLORIDE COAGULANT FEED SYSTEM, FERRIC CHLORIDE TANK AND POLYMER FEED SYSTEM TO BE INSTALLED IN OPEN SHED ROOF ENCLOSURE.
  2. FERRIC CHLORIDE FEED TRUCK UNLOADING STATION.
  3. VENT TO DRUM OR BUCKET.
  4. CALCULATION BASED ON CONTINUOUS DUTY OPERATION.
  5. 1/2" STAINLESS STEEL TUBING.



PROJECT MANAGER		
PROJECT ENGR.		
DESIGN BY		B. POWERS
DESIGN CHK'D BY		
DRAWN BY		J. RHEA
DWG. CHK'D BY		
Q.C.		
PROJECT NUMBER		
A	ISSUE FOR REVIEW	
ISSUE	DATE	DESCRIPTION

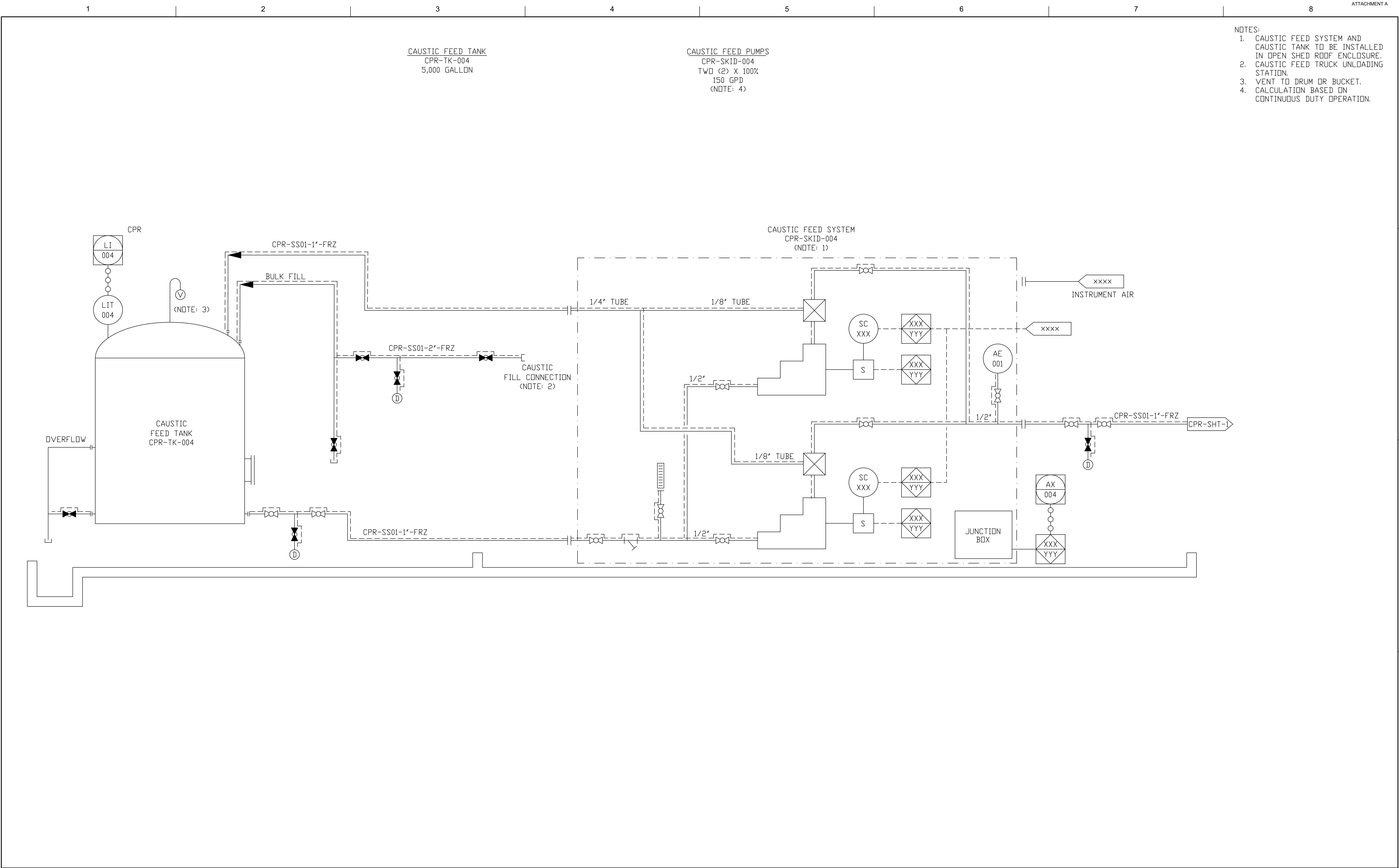
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A SOUTHERN COMPANY  
**PLANT DANIEL**  
**LVWW REDIRECTION PROJECT**

PLANT DANIEL  
LVWW RECONFIGURATION  
COAL PILE RUNOFF (CPR) SYSTEM

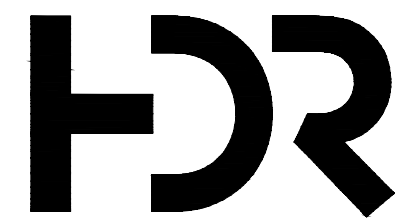
FILENAME

SHEET  
01





- NOTES:
1. CAUSTIC FEED SYSTEM AND CAUSTIC TANK TO BE INSTALLED IN OPEN SHED ROOF ENCLOSURE.
  2. CAUSTIC FEED TRUCK UNLOADING STATION.
  3. VENT TO DRUM OR BUCKET.
  4. CALCULATION BASED ON CONTINUOUS DUTY OPERATION.



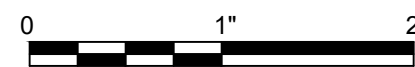
A ISSUE FOR REVIEW

ISSUE	DATE	DESCRIPTION
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PROJECT ENGR.	
DESIGN BY	B. POWERS
DESIGN CHK'D BY	
DRAWN BY	J. RHEA
DWG. CHK'D BY	
Q.C.	
PROJECT NUMBER	

**MISSISSIPPI POWER**  
A SOUTHERN COMPANY  
**PLANT DANIEL**  
**LVWW REDIRECTION PROJECT**

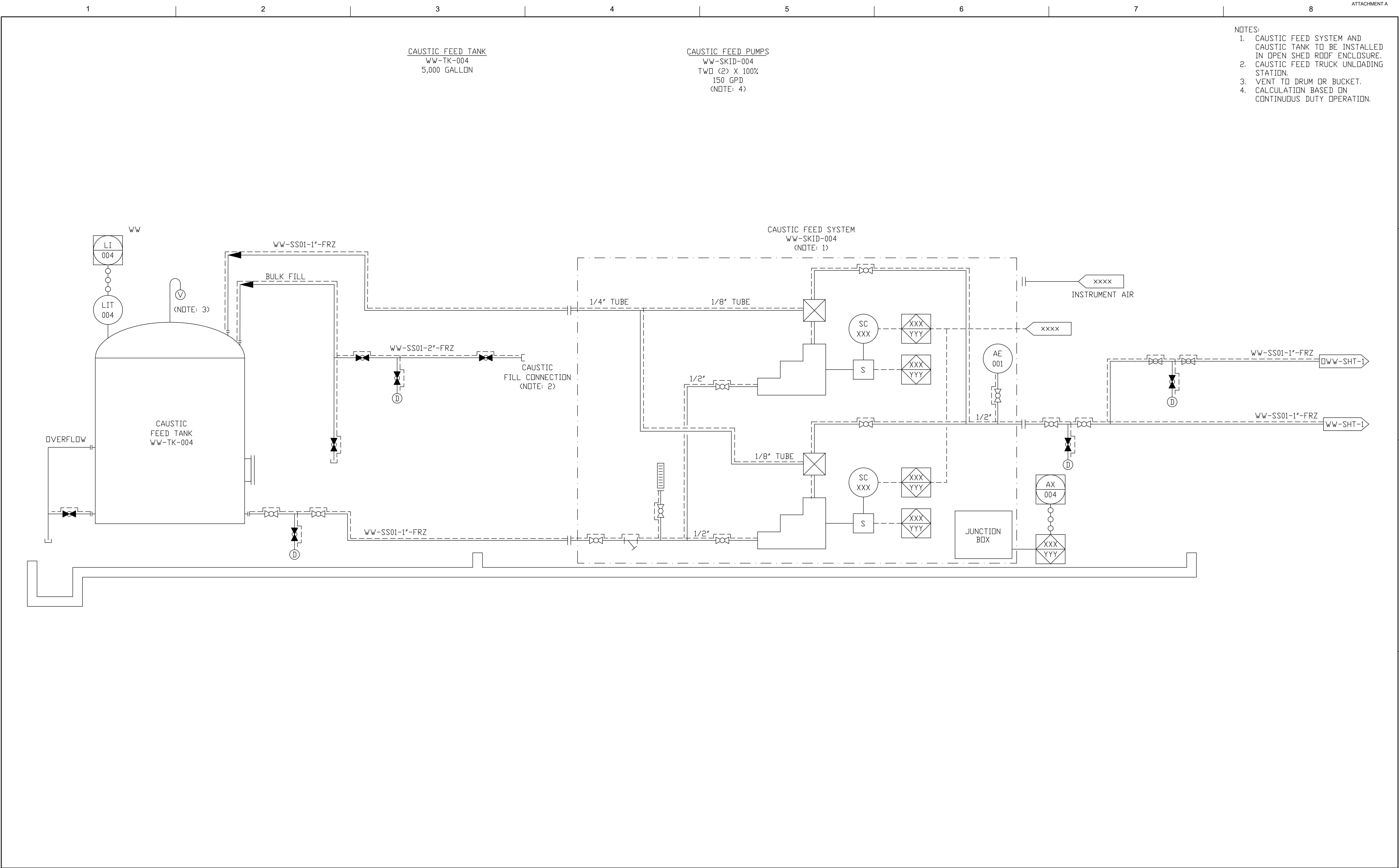
PLANT DANIEL  
LVWW RECONFIGURATION  
COAL PILE RUNOFF (CPR) SYSTEM



FILENAME  
SCALE

SHEET  
02

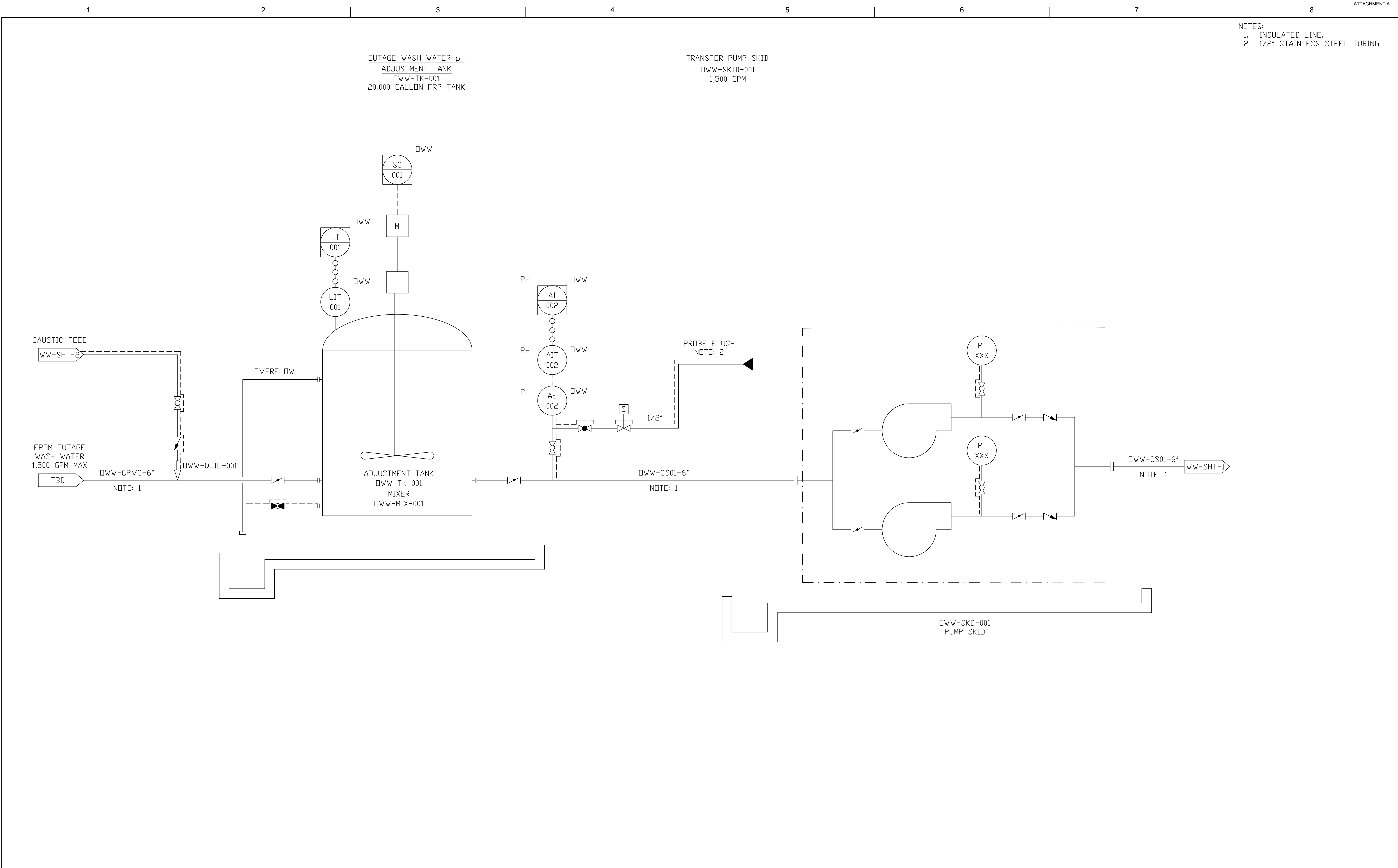




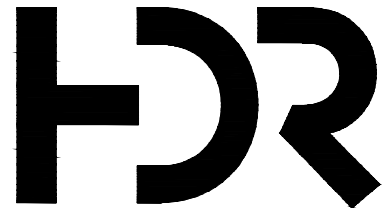

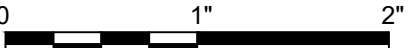
- NOTES:
- 1. CAUSTIC FEED SYSTEM AND CAUSTIC TANK TO BE INSTALLED IN OPEN SHED ROOF ENCLOSURE.
  - 2. CAUSTIC FEED TRUCK UNLOADING STATION.
  - 3. VENT TO DRUM OR BUCKET.
  - 4. CALCULATION BASED ON CONTINUOUS DUTY OPERATION.

		<b>PROJECT MANAGER</b>		 A SOUTHERN COMPANY <b>PLANT DANIEL</b> <b>LVWW REDIRECTION PROJECT</b>	<b>PLANT DANIEL</b> <b>LVWW RECONFIGURATION</b> <b>WASTEWATER (WW) SYSTEM</b>		
		<b>PROJECT ENGR.</b>					
		<b>DESIGN BY</b>	B. POWERS			 FILENAME SCALE	<b>SHEET</b> 02
		<b>DESIGN CHK'D BY</b>	J. RHEA				
	<b>DRAWN BY</b>	J. RHEA					
	<b>DWG. CHK'D BY</b>						
	<b>Q.C.</b>						
<b>A</b>	<b>ISSUE FOR REVIEW</b>						
<b>ISSUE</b>	<b>DATE</b>	<b>DESCRIPTION</b>	<b>PROJECT NUMBER</b>				





NOTES:  
1. INSULATED LINE.  
2. 1/2" STAINLESS STEEL TUBING.

			<b>PROJECT MANAGER</b>		 <b>MISSISSIPPI POWER</b> A SOUTHERN COMPANY <b>PLANT DANIEL</b> <b>LVWW REDIRECTION PROJECT</b>	<b>PLANT DANIEL</b> <b>LVWW RECONFIGURATION</b> <b>OUTAGE WASTEWATER PH</b> <b>ADJUSTMENT(OWW) SYSTEM</b>		
			<b>PROJECT ENGR.</b>					
			<b>DESIGN BY</b>	B. POWERS			 FILENAME SCALE	<b>SHEET</b> 01
			<b>DESIGN CHK'D BY</b>	J. RHEA				
		<b>DRAWN BY</b>	Q.C.					
		<b>DWG. CHK'D BY</b>						
		<b>Q.C.</b>						
		<b>ISSUE</b>	<b>DATE</b>	<b>DESCRIPTION</b>	<b>PROJECT NUMBER</b>			
		A		ISSUE FOR REVIEW				

DATA REQUEST NO.:  
REQUEST DATE:

MPUS 1-23  
JULY 30, 2019

Page 1 of 1

What costs have been incurred to date on these projects? Have these costs been included in the total estimated cost of the projects as filed?

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

The Company has spent a total of \$4.1 million on the Plant Daniel CCR Projects through June 2019. These expenditures are included in the cost estimates in the filing.

The response to this request was prepared by: Mark Loughman

The response to the above information request provided to the Mississippi Public Utilities Staff is accurate and complete and contains no material misrepresentations or omissions based upon present facts known to the undersigned. The undersigned agrees to immediately inform the Staff if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the information request.

The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.

DATA REQUEST NO.:  
REQUEST DATE:

MPUS 1-24  
JULY 30, 2019

Page 1 of 1

Please indicate who will perform the work on these facilities. Will there be a competitive bidding process? If so, please provide a summary of the Company's competitive bidding process.

RESPONSE: See Below (X) and/or See Attached (X)  
RESPONSE DATE: August 16, 2019

Mississippi Power Company objects to this request pursuant to Rule 6.122(5) of the Commission's Public Utilities Rules of Practice and Procedure on the grounds that the documents and information requested contain confidential and proprietary commercial and financial information and trade secret information of Mississippi Power Company under Sections 25-61-9, 25-61-11, 75-26-3 and 79-23-1 of the Mississippi Code of 1972, as amended.

Without waiving its objection, MPC would state that information ("Confidential Information") responsive to this request is being filed confidentially with the Mississippi Public Utilities Staff as an attachment hereto under separate confidential cover. That attachment and the Confidential Information contained therein has been clearly designated as "Confidential" and is on file with the Staff and the Commission pursuant to Rules 4.100(3) and 4.101(3) of the Commission's Public Utilities Rules of Practice and Procedure. Mississippi Power Company hereby requests that all such Confidential Information filed with the Staff and/or Commission and marked "Confidential" be maintained as such to the fullest extent of the law and the Commission's Rules.

The Confidential Information derives economic value from not being generally known to, and not being readily ascertainable by proper means by other persons who can obtain economic value from its disclosure or use.

Additionally, the Confidential Information is subject to extensive efforts to maintain its secrecy. Only select Mississippi Power Company and Southern Company Services personnel are granted access to the Confidential Information.

Contracts for goods and services required for the Plant Daniel CCR Projects will be developed in accordance with the procedures outlined in the Southern Company Contracts Manual. A competitive bidding process will be used, and the Company will comply with the requirements of the Hire Mississippi program.

The Southern Company Contracts Manual, Module 3: Policies and Procedures for Contract Development and Orders is being filed confidentially.

The response to this request was prepared by: Mark Loughman

The response to the above information request provided to the Mississippi Public Utilities Staff is accurate and complete and contains no material misrepresentations or omissions based upon present facts known to the undersigned. The undersigned agrees to immediately inform the Staff if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the information request.

The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.

DATA REQUEST NO.:  
REQUEST DATE:

MPUS 1-25  
JULY 30, 2019

Page 1 of 1

Have contractors been selected for the CCR projects? If so, please provide a listing of the contractors chosen. Please explain why these particular contractors were chosen.

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

The Company has contracted with Burns & McDonnell for engineering and procurement of the Babcock and Wilcox Submerged Grind Conveyor (SGC) System. Burns & McDonnell is a top tier engineering firm with demonstrated experience with the installation of an SGC system at another utility.

Construction contracts have not yet been developed nor awarded for the Plant Daniel CCR project work. A competitive bidding process will be used to select contractors, in accordance with the Southern Company Contracts Manual.

The response to this request was prepared by: Mark Loughman

The response to the above information request provided to the Mississippi Public Utilities Staff is accurate and complete and contains no material misrepresentations or omissions based upon present facts known to the undersigned. The undersigned agrees to immediately inform the Staff if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the information request.

The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.

DATA REQUEST NO.:  
REQUEST DATE:

MPUS 1-26  
JULY 30, 2019

Page 1 of 1

Does the Company expect any salvage proceeds from any of the CCR projects? Please explain.

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

The Company does not expect any significant salvage associated with these projects. If any salvage is received, it will be netted against the cost of the Project.

The response to this request was prepared by: Mark Loughman

The response to the above information request provided to the Mississippi Public Utilities Staff is accurate and complete and contains no material misrepresentations or omissions based upon present facts known to the undersigned. The undersigned agrees to immediately inform the Staff if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the information request.

The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.

DATA REQUEST NO.:  
REQUEST DATE:

MPUS 1-27  
JULY 30, 2019

Page 1 of 1

What is the amount of CCR that is expected to be sold for beneficial use, and how does the Company plan to account for the proceeds? Please explain.

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

The Company currently anticipates the following estimated sales of CCR from Plant Daniel for beneficial use:

Fly ash	50,000 tons/year
Bottom Ash	10,000 tons/year
Gypsum	15,000 to 20,000 tons/year

Sales proceeds are credited to fuel handling and returned to customers through the fuel clause.

The response to this request was prepared by: Mark Loughman

The response to the above information request provided to the Mississippi Public Utilities Staff is accurate and complete and contains no material misrepresentations or omissions based upon present facts known to the undersigned. The undersigned agrees to immediately inform the Staff if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the information request.

The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.

DATA REQUEST NO.:  
REQUEST DATE:

MPUS 1-28  
JULY 30, 2019

Page 1 of 1

Have the Company's customers been notified of the increase in rates due to the CCR projects?  
If so, please provide a copy of the notice.

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

The Company is not requesting any rate change due to the CCR projects within this petition. Pursuant to the Commission Rule 2.115, the Company did notice each "interested person" upon filing with the Commission.

The response to this request was prepared by: Ben Vance

The response to the above information request provided to the Mississippi Public Utilities Staff is accurate and complete and contains no material misrepresentations or omissions based upon present facts known to the undersigned. The undersigned agrees to immediately inform the Staff if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the information request.

The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.

DATA REQUEST NO.:  
REQUEST DATE:

MPUS 1-29  
JULY 30, 2019

Page 1 of 1

Please provide an estimate of the impact of the cost of the proposed facilities upon ECO rate base and rates for all customer rate classes by year.

RESPONSE: See Below (X) and/or See Attached ( )  
RESPONSE DATE: August 16, 2019

The Company has not begun detailed rate design for the impact of the CCR projects due to several assumptions needed to be made with regards to the large ARO impact included in the ash pond closure. However, under the following assumptions, the first full year revenue requirement would indicate a need of approximately \$6 million in revenue, or 0.7% of total retail revenues, based on the cost estimates presented on Exhibit\_\_\_\_(MPL-3) and 10-year amortization of the ARO regulatory asset.

The response to this request was prepared by: Ben Vance

The response to the above information request provided to the Mississippi Public Utilities Staff is accurate and complete and contains no material misrepresentations or omissions based upon present facts known to the undersigned. The undersigned agrees to immediately inform the Staff if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the information request.

The Responsible Company Representative for this response is Shawn Shurden, as sworn under oath in the Responsible Company Representative's Data Request Affidavit.



ATTACHMENT A

**BALCH**  
& BINGHAM LLP

RICKY J. COX  
t: (228) 214-0411  
f: (888) 506-8674  
e: rcox@balch.com

September 20, 2019

Ms. Cassandra Lowe  
Mississippi Public Utilities Staff  
501 North West Street, Suite 301B  
Jackson, MS 39201

**Re: Petition of Mississippi Power Company for a Certificate of Public Convenience and Necessity for Environmental Compliance Activities Authorizing the Closure of the Ash Pond, Construction of Low Volume Wastewater Treatment Facilities, and Conversion of Bottom Ash Collection Facilities for the Plant Victor J. Daniel Electric Generating Facility in Jackson County, Mississippi  
Docket No. 2019-UA-116**

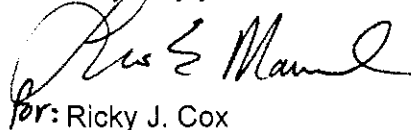
Dear Cassandra:

On behalf of Mississippi Power Company in the above referenced docket, I enclose a copy of certain of the Company's Responses to the Mississippi Public Utilities Staff's First Set of Data Requests, MPUS 1-8, 1-9, 1-10 and 1-13. By copy of this letter, I am providing one (1) copy to each party who has requested our responses, and four (4) copies to the Mississippi Public Utilities Staff for filing. The original of these responses is being retained in our files.

The responses to certain requests contain confidential and proprietary commercial and financial information and trade secret information under Sections 25-61-9, 25-61-11, 75-26-3, and 79-23-1, as applicable of *the Mississippi Code of 1972, as amended* ("Confidential Information"). These documents and the Confidential Information contained therein have been clearly designated as "Confidential." MPC is providing the Confidential Information under separate confidential cover, and requests the Commission and Staff file and maintain them as confidential to the fullest extent permitted by law, and as provided by Rules 4.100 and 4.101 of the Commission's Public Utilities Rules of Practice and Procedure.

Also enclosed is a copy of this letter and the first page of the Responses, which I will appreciate your file-stamping and returning to me. Please let me know if you have any questions regarding this matter.

Very truly yours,



for: Ricky J. Cox

RJC:hr  
Enclosures

cc: Mr. Virden Jones  
David Tad Campbell, Esq.  
Jeff Stone, Esq.  
Shawn Shurden, Esq.  
Robert Wiygul, Esq.

**DATA REQUEST NO.:**  
**REQUEST DATE:**

**MPUS 1-8 SUPP**  
**JULY 30, 2019**

**Page 1 of 1**

On Page 10 of Mark P. Loughman's testimony, it states, "Retirement of either Unit 1 or Unit 2 at Plant Daniel prior to the 2020 deadline for ceasing waste streams into the Ash Pond is not feasible given current transmission constraints." Please explain in detail the transmission constraint issue that prohibits retirement of the Daniel coal units before the 2020 deadline.

**RESPONSE:** See Below (X) and/or See Attached ( )  
**RESPONSE DATE:** September 20, 2019

Mississippi Power Company objects to this request pursuant to Rule 6.122(5) of the Commission's Public Utilities Rules of Practice and Procedure on the grounds that the documents and information requested contain confidential and proprietary commercial and financial information and trade secret information of Mississippi Power Company under Sections 25-61-9, 25-61-11, 75-26-3 and 79-23-1 of the Mississippi Code of 1972, as amended.

Without waiving its objection, MPC would state that information ("Confidential Information") responsive to this request is being filed confidentially with the Mississippi Public Utilities Staff as an attachment hereto under separate confidential cover. That attachment and the Confidential Information contained therein has been clearly designated as "Confidential" and is on file with the Staff and the Commission pursuant to Rules 4.100(3) and 4.101(3) of the Commission's Public Utilities Rules of Practice and Procedure. Mississippi Power Company hereby requests that all such Confidential Information filed with the Staff and/or Commission and marked "Confidential" be maintained as such to the fullest extent of the law and the Commission's Rules.

The Confidential Information derives economic value from not being generally known to, and not being readily ascertainable by proper means by other persons who can obtain economic value from its disclosure or use.

Additionally, the Confidential Information is subject to extensive efforts to maintain its secrecy. Only select Mississippi Power Company and Southern Company Services personnel are granted access to the Confidential Information.

MPC committed to providing the MPUS a supplemental response to MPUS 1-8 (filed on 8/16/19) upon completion of an updated transmission planning analysis for a Daniel Unit 1 and Unit 2 retirement scenario due to recent generation resource decision changes in neighboring systems and the changing ash pond closure timeline discussed in MPUS 1-10 and MPUS 1-13 SUPP Attachment A. The updated transmission planning analysis was recently completed, and the results of the updated analysis are being provided confidentially only as MPUS 1-8\_SUPP, Attachment A. The updated analysis supports Mr. Loughman's testimony that retirement of

either Unit 1 or Unit 2 prior to the 2020 deadline for ceasing waste streams into the Ash Pond is not feasible given transmission constraint issues.

**DATA REQUEST NO.:**  
**REQUEST DATE:**

**MPUS 1-9 SUPP**  
**JULY 30, 2019**

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In reference to MPUS 1-8, could the transmission improvement projects be expedited to accommodate retirement of the Daniel coal units to meet the 2020 deadline? Please explain.

**RESPONSE:** See Below (X) and/or See Attached ( )  
**RESPONSE DATE:** September 20, 2019

MPC committed to providing the MPUS a supplemental response to MPUS 1-9 (filed on 8/16/19) upon completion of an updated transmission planning analysis for a Daniel Unit 1 and Unit 2 retirement scenario due to recent generation resource decision changes in neighboring systems and the changing ash pond closure timeline discussed in MPUS 1-10 and MPUS 1-13 SUPP Attachment A. The updated transmission planning analysis was recently completed, and the results of the updated analysis are being provided confidentially only as MPUS 1-8\_SUPP, Attachment A.

The updated analysis supports MPC's original response that the transmission improvement projects provided in response to MPUS 1-8 cannot feasibly be expedited to accommodate retirement of the Daniel coal units prior to the 2020 deadline for ceasing waste streams into the Ash Pond due to the quantity and scope of the projects involved in order to maintain the reliability of the bulk electric system.

As noted on page 11 in Mr. Loughman's testimony, the CCR Rule allows CCR to continue to be placed into the Ash Pond beyond the 2020 deadline if both co-owners of Units 1 and 2 (MPC and Gulf Power Company) certify, by that date, that the plant will cease operations of both coal-fired boilers no later than October 17, 2023. Ash Pond closure must also be completed by this same date. Therefore, the maximum time available to continue use of the Ash Pond becomes a function of the anticipated duration of closure activities. Closure activities require cessation of CCR waste streams. In order to allow adequate time to complete the closure activities and meet the October 17, 2023 deadline, both units would have to cease operation by July 1, 2022 to allow closure activities to begin.

The transmission improvement projects associated with ceasing operation would have to be completed prior to the July 1, 2022 deadline in order to maintain the reliability of the electric system. While not its preferred approach, MPC has developed an aggressive and potentially risky construction schedule to complete the transmission upgrades by July 1, 2022, if the Commission decides MPC must cease operations of Units 1 and 2. However, the study assumes that Plant Watson 5 or Plant Watson 4&5 remain in service.

Although the aggressive construction schedule is technically possible under optimal circumstances, it comes with several risks such as the ability to schedule the facility outages, weather delays, easement or right-of-way issues, permitting delays, other fleet contingencies,

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etc. One key requirement in being able to meet the construction timeline is obtaining approved MPSC Certificates of Convenience and Necessity for the projects identified in the provided confidential transmission project list. The majority of the projects would require approved MPSC Certificates of Convenience and Necessity by March 2020 in order for MPC to meet the July 1, 2022 deadline.

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On Page 11 of Mark P. Loughman's testimony, it states that the Rule allows for CCR to continue to be placed into the Ash Pond beyond the 2020 deadline if both co-owners of the Daniel coal units certify that the units will be retired no later than October 17, 2023. What is Gulf Power Company's current position on the retirement of the units? Please explain.

**RESPONSE:**                      **See Below (X)**                      **and/or**                      **See Attached ( )**  
**RESPONSE DATE:**                      **September 20, 2019**

See MPC's Supplemental Responses to MPUS 1-8, MPUS 1-9, and MPUS 1-13.

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Please explain how accelerated retirement of the Daniel coal units would affect the CCR projects and the Company's projected cost estimates for the CCR projects?

**RESPONSE:**                      **See Below (X)**                      **and/or**                      **See Attached (X)**  
**RESPONSE DATE:**                      **September 20, 2019**

As noted in the response to MPUS 1-10, the July 12, 2019 Alternate Source Demonstration materially changed the expected timeframe required to close the ash pond. MPUS 1-13 Attachment A SUPP discusses the projected changes to the CCR Project costs and impacts of triggering closure of AROs discussed in MPUS 1-13. MPC has also noted 1) the changes in the CCR Project timeline as set out in MPUS 1-13 Attachment A SUPP, 2) the resulting transmission study impacts as set out in MPUS 1-8 SUPP and MPUS 1-9 SUPP, and 3) the potentially avoidable CCR Project and ARO closure impacts as set out in MPUS 1-13 SUPP, Attachment A. MPC has incorporated these changes into an asset valuation for MPC's portion of the Plant Daniel coal units. This asset valuation is provided as MPUS 1-13 SUPP, Attachment B.



The following estimate, based on high-level judgement, is incorporated into the updated asset valuation.

Under the “Alternative closure requirements” in the EPA’s CCR Rule, MPC “may continue to receive CCR in the unit”<sup>1</sup> beyond October 31, 2020 under the condition that “the coal-fired boiler must cease operation and the CCR surface impoundment must have completed closure no later than October 17, 2023.”<sup>2</sup> Closure activities cannot begin until the Ash Pond ceases receipt of all waste streams, both CCR and non-CCR. Therefore, the cease-receipt date becomes a function of the estimated duration of closure activities. In order to cease receipt of CCR into the Ash Pond, the coal-fired generating units must cease operation. According to the current estimate of closure activity duration, the coal units would have to shut down by July 1, 2022 in order to complete closure by October 17, 2023.

If the coal units were retired in 2022, certain critical transmission improvements would be necessary in order to maintain the reliability of the electric system prior to ceasing operation of the Daniel coal units. Preliminary scheduling studies indicate that, considering line outage scheduling constraints necessary to maintain electric system reliability for expected conditions, completion of these transmission improvements by July 1, 2022 may be possible. Retiring the coal units prior to the completion of the transmission improvements would result in an unacceptable increase in risk to the reliability of the electric system.

Notwithstanding the electric system reliability concerns expressed above, the following sections describe the calculation of net savings in capital expenditures associated with environmental compliance resulting from a scenario in which the coal units are retired on July 1, 2022.

#### **Dry Bottom Ash Conversion:**

In this scenario, the Dry Bottom Ash Conversion project could be cancelled. However, cancellation would not result in a savings of the full \$47.7 million estimated cost. Approximately \$3 million in costs have already been incurred through June 2019. Cancellation of the engineering and procurement contract with Burns & McDonnell would result in cancellation fees of approximately \$7 million. Therefore, the savings from cancelling the Dry Bottom Ash Conversion project is estimated to be approximately \$37.7 million.

#### **Ash Pond Closure:**

In this scenario, the Ash Pond must still be closed in compliance with the CCR Rule, but the closure activities could be delayed by 21 months.

- Current Schedule: Start Jul. 2020; Cease Receipt Oct. 2020; Complete Jan. 2022
- Alternate Scenario: Start Apr. 2022; CCR Cease Receipt Jun. 2022; Complete Oct. 2023

The present value of the savings resulting from delaying the \$35.5 million expenditure for 21 months is approximately \$3 million.

#### **Permanent Low Volume Wastewater Treatment (LVWT) System:**

The proposed LVWT System is designed to treat the combined volume of LVW streams resulting from coal and natural gas operations. This large treatment capacity would no longer be required after the coal units are retired and coal-related facilities are properly closed in compliance with environmental regulations. However, cancellation at this time would not result in a savings of the full \$24 million estimated cost. Approximately \$894 thousand in costs have

<sup>1</sup> EPA CCR Rule § 257.103

<sup>2</sup> EPA CCR Rule § 257.103(b)(2).

already been incurred through June 2019. Therefore, the savings from cancelling the currently-planned LVWT System is estimated to be approximately \$23.1 million.

However, in this scenario, a permanent LVWT system would have to be constructed to treat the LVW streams resulting from the continued operation of the natural gas-fired generating units, Units 3 and 4. Because this is a much smaller volume, the cost of an LVWT system for the gas units is estimated to be approximately \$10 million.

The net savings associated with permanent LVWT systems is estimated to be approximately \$13.1 million.

#### **Temporary LVWT System:**

The Ash Pond currently serves dual roles as a bottom ash storage facility and LVW retention pond. The following LVW streams currently flow into the Ash Pond:

1. Coal Pile Runoff (CPR) Pond discharge
2. Wastewater Basin discharge
3. North Ash Management Unit (NAMU) leachate and storm water runoff
4. Central Ash Management Unit (CAMU) leachate and storm water runoff

The current plan includes provisions for alternate treatment of these LVW streams during the closure and repurposing of the Ash Pond. MPC plans to rent temporary clarifier trailers to treat these LVW streams beginning in July 2020 for 25 months at an estimated cost of \$19.9 million.

In the coal retirement scenario, the temporary treatment trailers will still be required beginning in July 2020. The "Alternate closure requirements" allow the Ash Pond to "continue to receive CCR", and only CCR, after October 31, 2020. The cease-receipt date for non-CCR LVW streams listed above remains October 31, 2020. These waste streams would continue as long as the coal units remain in service. They would also continue after retirement of the coal units until all coal-related facilities are properly closed in compliance with environmental regulations. Closure of coal-related facilities (e.g. coal pile, CPR Pond, NAMU, and CAMU) would begin immediately following the retirement of the coal units in June 2022 and would be completed by June 2023. Therefore, rental of temporary treatment trailers would need to be extended by 11 months to treat the continued flow of coal-related waste streams:

- Current Schedule: Start July 2020; Complete July 2022; Duration 25 months
- Alternate Scenario: Start July 2020; Complete June 2023; Duration 36 months

The additional cost associated with an 11-month extension is estimated to be approximately \$5.5 million.

**Asset Retirement Obligations (AROs):**

The retirement of the coal units would trigger the immediate closure of all coal-related AROs:

<b>ARO</b>	<b>Closure Cost (\$M)<sup>3</sup></b>
NAMU Closure	\$13.5
NAMU Monitoring	\$9.4
Gypsum Facility Closure	\$2.6
Gypsum Facility Monitoring	\$10.6
Injection Wells	\$1.0
<b>Total</b>	<b>\$37.1</b>

This would advance the closure expenditures by 24 years, from 2046 to 2022. Advancing these expenditures by 24 years would result in a present value cost of approximately \$23 million.

**Net Savings:**

The costs and savings in capital expenditures associated with environmental compliance resulting from a hypothetical scenario in which the coal units are retired on July 1, 2022 are summarized in the table below:

<b>Environmental Capital Expenditures (\$millions)<sup>4</sup></b>			
<b>Description</b>	<b>Current Plan</b>	<b>Alternate Scenario</b>	<b>Cost (Savings)</b>
Dry Bottom Ash Conversion	\$47.7	\$10.0	(\$37.7)
Permanent LVWT System	\$24.0	\$10.9	(\$13.1)
Temporary LVWT System	\$19.9	\$25.4	\$5.5
<b>Total</b>			<b>(\$45.3)</b>

If a decision were made today to pursue this scenario, the net savings is estimated to be approximately \$45 million. If the decision were made on November 1, 2019 (the date by which MPC must begin construction to meet compliance deadlines), the net savings would be lower.

<sup>3</sup> The values in the ARO table are preliminary estimates in real 2019 dollars representing total cost without regard to ownership. NAMU Closure includes closure of NAMU leachate pond. These estimates do not include closure of the coal pile and coal pile runoff pond, which must be closed prior to closure of NAMU.

<sup>4</sup> Values are total cost in nominal dollars without regard to ownership.

Additional procurement commitments and ongoing engineering and procurement services would reduce the savings by approximate \$2.4 million.

As it relates to near-term rate impacts, the \$45 million in incremental savings would be enhanced by the deferral of \$33.5 million in Ash Pond closure costs but offset by the advancement of \$37 million in ARO closure costs. From a net present value basis, the ARO closure costs of \$37 million are an advancement of costs that would have been incurred in the future, that, assuming that the facilities would have lasted the current life of the facility, means a 24-year advancement (2046 to 2022) with a present value of \$23 million, less the \$3 million savings due to deferral of the Ash Pond closure, for a net savings of \$25 million in present value.

The asset valuations for the RMP used budgets and forecasts from the 2018 planning cycle completed in the fall of 2017. In April 2019, the Company updated the asset valuations of Unit 5 at Plant Watson and Units 1 and 2 at Plant Daniel using budgets and forecasts from the 2019 planning cycle and updated transmission studies completed in March 2019. These units were selected for the update because they had the potential to change the rank order determined in the initial screening step of the asset valuation process. In the April 2019 analysis, the initial screening (base year 2019)<sup>1</sup> indicated that the margins between the units were considerably closer than in the 2018 RMP. However, when considering that, for reliability reasons, none of the units could be retired prior to 2022, the relative value of Daniel 1 and 2 versus Watson 5 increased when considering a 2022 base year.<sup>2</sup> The increased margin was primarily due to the assumption that certain environmental projects at Plant Daniel coal must be completed prior to 2022.

On July 12, 2019, the Company completed a study that concluded the elevated levels of constituents observed during the required groundwater monitoring at Plant Daniel can be attributed to naturally occurring sources in regional soils. Based on how the completion of this study impacted the expected closure timeline, some of the costs for the Daniel CCR Projects could be avoided by using the retirement provisions of the CCR Rule. In this September 2019 asset valuation, the Company has incorporated these avoidable environmental capital projects, updated budget forecasts, updated discount rates, and the results of recent transmission studies. This update assumes that the ownership of Daniel 1 and 2 is divided in 2022 with MPC owning 100% of Unit 1 and Gulf owning 100% of Unit 2, however, no unit selection has been determined at this time. Gulf is assumed to cease operating Unit 2. The updated asset valuations of Watson 5 and Daniel 1 assume continued operation vs. retirement in 2022.

The asset valuations are conducted in a three-step process described in the following sections.

### **Step 1 - Initial Screening:**

In the first step of the asset valuation process, an asset screen is performed on each generating unit, individually comparing each unit to the same alternative in order to establish the rank order of generating units on a \$/kW NPVRR<sup>3</sup> basis. In the RMP, Daniel 1 and 2 ranked ahead of Watson 5 with a \$229/kW margin. In the April 2019 update, the rank order remained the same, but the margin between Daniel 1&2 and Watson 5 decreased to \$217/kW. In the September 2019 update, Daniel 1 and Watson 5 swapped places in the rank order as shown in the following table.

<sup>1</sup> Base year 2019 means that the first year of the study period is 2019 and continued operation of the generating unit is compared to retirement in 2019. NPVRR values are expressed in 2018 dollars in the original RMP and in 2019 dollars in the April 2019 update.

<sup>2</sup> Base year 2022 means that the first year of the study period is 2022 and continued operation of the generating unit is compared to retirement in 2022. Daniel CCR Project costs were not included in the base year 2022 case in the April 2019 update as the projects would have been completed by that time. Avoidable Daniel CCR Project costs beginning in 2020 are included in the September 2019 update. NPVRR values are expressed in 2019 dollars in both the April and September 2019 updates.

<sup>3</sup> NPVRR is the net present value of revenue requirements.

Initial Asset Screening Step for Ranking - Base Year 2019				
NPVRR Benefit(Cost) - Average of all 9 Scenarios				
		Orig 2018 RMP	April 2019 Update	Change
\$M	Watson 5	160	152	(8)
	Daniel 1&2	271	159	(112)
	Margin between Units	111	7	(104)
\$/kw	Watson 5	310	295	(15)
	Daniel 1&2	539	317	(222)
	Margin between Units	229	22	(207)

Initial Asset Screening Step for Ranking - Base Year 2022				
NPVRR Benefit(Cost) - Average of all 9 Scenarios				
		April 2019 Update	Sept 2019 Update	Change
\$M	Watson 5	126	92	(33)
	Daniel 1&2	231	34	(197)
	Margin between Units	106	(58)	(164)
\$/kw	Watson 5	243	179	(65)
	Daniel 1&2	460	68	(393)
	Margin between Units	217	(111)	(328)

The decrease for Daniel 1 is primarily due to the reduction of transmission benefits for continued operation, change in the discount rate, and the ability to avoid some of the environmental capital projects if the unit was retired as noted in MPUS (BW) 3-8. The April 2019 update assumed that continued operation of Daniel 1 and 2 would avoid \$70 million in transmission improvements. In the updated transmission study described in MPUS (BW) 3-9, continued operation of Daniel 1 and 2 would avoid \$133 million in transmission improvements. However, retirement of one or both units would result in the same amount of required transmission improvements. Given Gulf Power's intent to retire their 50% undivided interest in Units 1 and 2 at Plant Daniel as noted in response MPUS (BW) 2-2, the current study assumes no transmission costs would be avoided by the continued operation of Daniel 1.

## **Step 2 - Capacity Worth Determination:**

In the second step of the asset valuation process, successive reserve margin analyses are conducted to determine the appropriate capacity worth to apply to each unit with the assumption that the least valuable units would be the first units to cease operation.

## **Step 3 – Final Asset Valuation:**

Finally, an asset valuation is performed for each unit for a 30-year planning horizon using the assumptions developed in the previous steps. The final asset valuations for the RMP and the updates are compared in the table below. The additional margin between units shown below as compared to the screening level is driven by the screening step and the changing rank order of these units of relatively close value.

Final Analysis - Base Year 2019				
NPVRR Benefit(Cost) - Average of all 9 Scenarios				
		Orig 2018 RMP	April 2019 Update	Change
\$M	Watson 5	(280)	(348)	(68)
	Daniel 1&2	198	136	(62)
	Margin between Units	478	484	6
\$/kw	Watson 5	(543)	(674)	(131)
	Daniel 1&2	394	271	(123)
	Margin between Units	937	945	9

Final Analysis - Base Year 2022				
NPVRR Benefit(Cost) - Average of all 9 Scenarios				
		April 2019 Update	Sept 2019 Update	Change
\$M	Watson 5	(328)	92	420
	Daniel 1&2	207	(129)	(336)
	Margin between Units	534	(222)	(756)
\$/kw	Watson 5	(635)	179	814
	Daniel 1&2	412	(258)	(670)
	Margin between Units	1,047	(437)	(1,483)

The results of the updated asset valuations are described below in more detail.

## **Plant Watson Unit 5:**

The Watson 5 valuation for continued operation assumes that Daniel 1 has already been retired. The additional retirement of Watson 5 would create a capacity need. Therefore, capacity benefits are assigned to Watson 5 in the September 2019 update vs. no capacity benefit assigned in the April 2019 update.

Continued operation of Unit 5 at Plant Watson would benefit customers by an estimated \$92 million NPVRR (\$179/kW). This is a \$420 million increase (\$814/kW increase) over the \$328 million (\$635/kW) cost estimated in the April 2019 update. The increase is due to the capacity benefits assigned to the unit due to its higher ranking ahead of Daniel 1.

Watson 5			
Original 2018 RMP			
Ranking - Base Year 2019			
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2
High Gas	160	160	160
Mod Gas	160	160	160
Low Gas	160	160	160
Average	160		
Average (\$/kW)	310		

Watson 5			
April 2019 Update			
Ranking - Base Year 2019			
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2
High Gas	145	145	200
Mod Gas	145	145	155
Low Gas	145	145	145
Average	152		
Average (\$/kW)	295		

Watson 5			
Change - April 2019 vs. Orig 2018 RMP			
Ranking - Base Year 2019			
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2
High Gas	(15)	(15)	40
Mod Gas	(15)	(15)	(5)
Low Gas	(15)	(15)	(15)
Average	(8)		
Average (\$/kW)	(15)		

Watson 5			
Original 2018 RMP			
Analysis - Base Year 2019			
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2
High Gas	(280)	(280)	(280)
Mod Gas	(280)	(280)	(280)
Low Gas	(280)	(280)	(280)
Average	(280)		
Average (\$/kW)	(543)		

Watson 5			
April 2019 Update			
Analysis - Base Year 2019			
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2
High Gas	(355)	(355)	(300)
Mod Gas	(355)	(355)	(345)
Low Gas	(355)	(355)	(355)
Average	(348)		
Average (\$/kW)	(674)		

Watson 5			
Change - April 2019 vs. Orig 2018 RMP			
Analysis - Base Year 2019			
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2
High Gas	(75)	(75)	(20)
Mod Gas	(75)	(75)	(65)
Low Gas	(75)	(75)	(75)
Average	(68)		
Average (\$/kW)	(131)		

Watson 5			
April 2019 Update			
Ranking - Base Year 2022			
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2
High Gas	120	115	175
Mod Gas	120	120	130
Low Gas	115	115	120
Average	126		
Average (\$/kW)	243		

Watson 5			
September 2019 Update			
Ranking - Base Year 2022			
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2
High Gas	90	85	125
Mod Gas	90	85	95
Low Gas	85	85	90
Average	92		
Average (\$/kW)	179		

Watson 5			
Change - Sept 2019 vs. April 2019			
Ranking - Base Year 2022			
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2
High Gas	(30)	(30)	(50)
Mod Gas	(30)	(35)	(35)
Low Gas	(30)	(30)	(30)
Average	(33)		
Average (\$/kW)	(65)		

Watson 5			
April 2019 Update			
Analysis - Base Year 2022			
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2
High Gas	(335)	(335)	(280)
Mod Gas	(335)	(335)	(325)
Low Gas	(335)	(335)	(335)
Average	(328)		
Average (\$/kW)	(635)		

Watson 5			
September 2019 Update			
Analysis - Base Year 2022			
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2
High Gas	90	85	125
Mod Gas	90	85	95
Low Gas	85	85	90
Average	92		
Average (\$/kW)	179		

Watson 5			
Change - Sept 2019 vs. April 2019			
Analysis - Base Year 2022			
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2
High Gas	425	420	405
Mod Gas	425	420	420
Low Gas	420	420	425
Average	420		
Average (\$/kW)	814		

MPC continues to evaluate the budget levels associated operating only Watson 5 and for operating the unit well beyond the current depreciable life. MPC will amend this data request response as those analyses progress.

### **Plant Daniel Units 1 and 2:**

The Daniel 1 valuation assumes that Watson 5 remains in service due to its ranking ahead of Daniel 1. Therefore, the retirement of Daniel 1 in this scenario would create some years of need prior to 2033 and a sustained capacity need beginning in 2033. Thus, Daniel 1 is assigned a low capacity value as compared to the April Update due to the change in ranking.



As described in Step 1, the asset valuation assumes that the retirement of the second coal unit does not trigger any additional transmission improvements. Therefore, no transmission costs are assumed to be avoided by the continued operation of Daniel 1.

Also, as described in Step 1, the September 2019 update includes avoidable costs for the Daniel CCR Projects.

Results of the updated asset valuation indicate that continued operation of Daniel 1 would cost customers an estimated \$129 million NPVRR (\$258/kW) over the long term. This is a \$336 million decrease (\$670/kW decrease) from the \$207 million (\$412/kW) benefit estimated in the April 2019 update. The decrease shown in the final step as compared to the screening step is due to the change in rank order in the screening step and the assignment of the lower assigned capacity value.

Daniel 1&2				
Original 2018 RMP				
Ranking - Base Year 2019				
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2	
High Gas	900	465	400	
Mod Gas	250	90	90	
Low Gas	80	80	80	
Average	271			
Average (\$/kW)	539			

Daniel 1&2				
April 2019 Update				
Ranking - Base Year 2019				
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2	
High Gas	650	165	350	
Mod Gas	200	35	45	
Low Gas	0	(5)	(10)	
Average	159			
Average (\$/kW)	317			

Daniel 1&2				
Change - April 2019 vs. Orig 2018 RMP				
Ranking - Base Year 2019				
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2	
High Gas	(250)	(300)	(50)	
Mod Gas	(50)	(55)	(45)	
Low Gas	(80)	(85)	(90)	
Average	(112)			
Average (\$/kW)	(222)			

Daniel 1&2				
Original 2018 RMP				
Analysis - Base Year 2019				
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2	
High Gas	830	380	295	
Mod Gas	215	5	0	
Low Gas	30	10	15	
Average	198			
Average (\$/kW)	394			

Daniel 1&2				
April 2019 Update				
Analysis - Base Year 2019				
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2	
High Gas	630	135	320	
Mod Gas	180	10	20	
Low Gas	(20)	(25)	(25)	
Average	136			
Average (\$/kW)	271			

Daniel 1&2				
Change - April 2019 vs. Orig 2018 RMP				
Analysis - Base Year 2019				
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2	
High Gas	(200)	(245)	25	
Mod Gas	(35)	5	20	
Low Gas	(50)	(35)	(40)	
Average	(62)			
Average (\$/kW)	(123)			

Daniel 1&2				
April 2019 Update				
Ranking - Base Year 2022				
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2	
High Gas	720	235	420	
Mod Gas	275	110	115	
Low Gas	70	70	65	
Average	231			
Average (\$/kW)	460			

Daniel 1				
September 2019 Update				
Ranking - Base Year 2022				
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2	
High Gas	395	35	165	
Mod Gas	70	(55)	(50)	
Low Gas	(85)	(85)	(85)	
Average	34			
Average (\$/kW)	68			

Daniel				
Change - Sept 2019 vs. April 2019				
Ranking - Base Year 2022				
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2	
High Gas	(325)	(200)	(255)	
Mod Gas	(205)	(165)	(165)	
Low Gas	(155)	(155)	(150)	
Average	(197)			
Average (\$/kW)	(393)			

Daniel 1&2				
April 2019 Update				
Analysis - Base Year 2022				
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2	
High Gas	700	205	390	
Mod Gas	250	80	90	
Low Gas	55	45	45	
Average	207			
Average (\$/kW)	412			

Daniel 1				
September 2019 Update				
Analysis - Base Year 2022				
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2	
High Gas	250	(155)	(25)	
Mod Gas	(85)	(230)	(220)	
Low Gas	(220)	(240)	(240)	
Average	(129)			
Average (\$/kW)	(258)			

Daniel				
Change - Sept 2019 vs. April 2019				
Analysis - Base Year 2022				
2019 NPV (M\$)	\$0 CO2	\$10 CO2	\$20 CO2	
High Gas	(450)	(360)	(415)	
Mod Gas	(335)	(310)	(310)	
Low Gas	(275)	(285)	(285)	
Average	(336)			
Average (\$/kW)	(670)			

MPC continues to evaluate the ramifications of Gulf Power's decision to retire their 50% undivided interest in Units 1 and 2 and its impacts to operations and the RMP. MPC will amend this data request response as those analyses progress.